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Publications

# Forest Management Agreements

Five Year Review  
1980-1985



Ministry of  
Natural  
Resources

Hon. Vincent G. Kerrio  
Minister

Mary Mogford  
Deputy Minister







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# Forest Management Agreements

Five Year Review  
1980-1985

November, 1985



Ontario

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Resources

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## Summary

The Ministry of Natural Resources has undertaken a policy of entering into Forest Management Agreements (FMAs) with major forest companies in the Province of Ontario. The FMAs replace existing licensing arrangements with an agreement which obliges the FMA holder to ensure forests on the agreement area are harvested and regenerated on a sustained yield basis.

The Crown Timber Act (Section 6) requires at the end of each term of five years of a Forest Management Agreement a report be laid before the Assembly "in respect of the relationship between harvest and growth, including regeneration, of timber during the said term on the area subject to agreement".

The Agreements are "evergreen". They have a period of 20 years made up of four five-year terms. The Forest Management Agreement (Section 15) requires the Minister to determine at the end of each term of five consecutive years whether or not the obligations of the company, under the management documents, have been satisfactorily performed. If such is the case, the Minister agrees to then extend the remaining period of the Forest Management Agreement a further term of five years.

This report presents an overview and individual reports of the five reviews undertaken by the Ministry of Natural Resources on the five Forest Management Agreements which have completed their fifth year of operation. It summarizes the various forest operations carried out by the five companies and presents the individual reviews for each company as provided by review committees for the following agreements:











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# **Section 1**

## **Five Year Review**





## INTRODUCTION

The objective of the forest management activity is to provide for an optimum continuous contribution to the economy of Ontario by the forest-based industry consistent with sound environmental practices and to provide for other uses of the forest. This involves promoting full utilization of the present allowable cut on Crown land and ensuring for the year 2020 an allowable harvest of 25.8 million cubic metres of wood.

In support of its objectives of resource development and resource conservation, Ontario has adopted a policy of entering into Forest Management Agreements.

The Crown Timber Act was amended in December, 1979 to permit the Minister of Natural Resources, subject to the approval of the Lieutenant Governor-in-Council, to enter into Forest Management Agreements (FMAs) with private sector companies. FMAs cover a specific section of Crown land and grant companies the right to harvest timber on that land. While the Ministry provides certain funding, the companies are responsible for the construction of access roads and for all planning, regeneration and other silviculture activities which are necessary for proper forest management. As of November, 1985, 26 FMAs have been executed covering a total of 145,357 square kilometres. This is 58 percent of the 248,577 square-kilometre licensed area in the province. A list of Agreements and their area is found in Appendix A.

The Crown Timber Act (Section 6) requires that at the end of each term of five years of a Forest Management Agreement a report be made to the Legislature "in respect of the relationship between harvest and growth, including regeneration, of timber during the said term on the area subject to agreement".



The Agreements have a period of twenty years made up of four five-year terms. The Forest Management Agreement (Section 15) requires the Minister to determine at the end of each term of five consecutive years whether or not the obligations of the company, under the management documents, have been satisfactorily met. If such is the case, the Minister then agrees to extend the remaining period of the forest management agreement a further term of five consecutive years. This is called an "evergreen" arrangement.

The Ministry of Natural Resources has undertaken reviews on the first five Forest Management Agreements as follows:

500200 Abitibi-Price Inc., Iroquois Falls Forest  
500300 Great Lakes Forest Products Ltd., English River  
Forest  
500400 E. B. Eddy Forest Products Ltd., Upper Spanish Forest  
500500 E. B. Eddy Forest Products Ltd., Lower Spanish Forest  
500600 Spruce Falls Power and Paper Co. Ltd., Gordon Cosens  
Forest

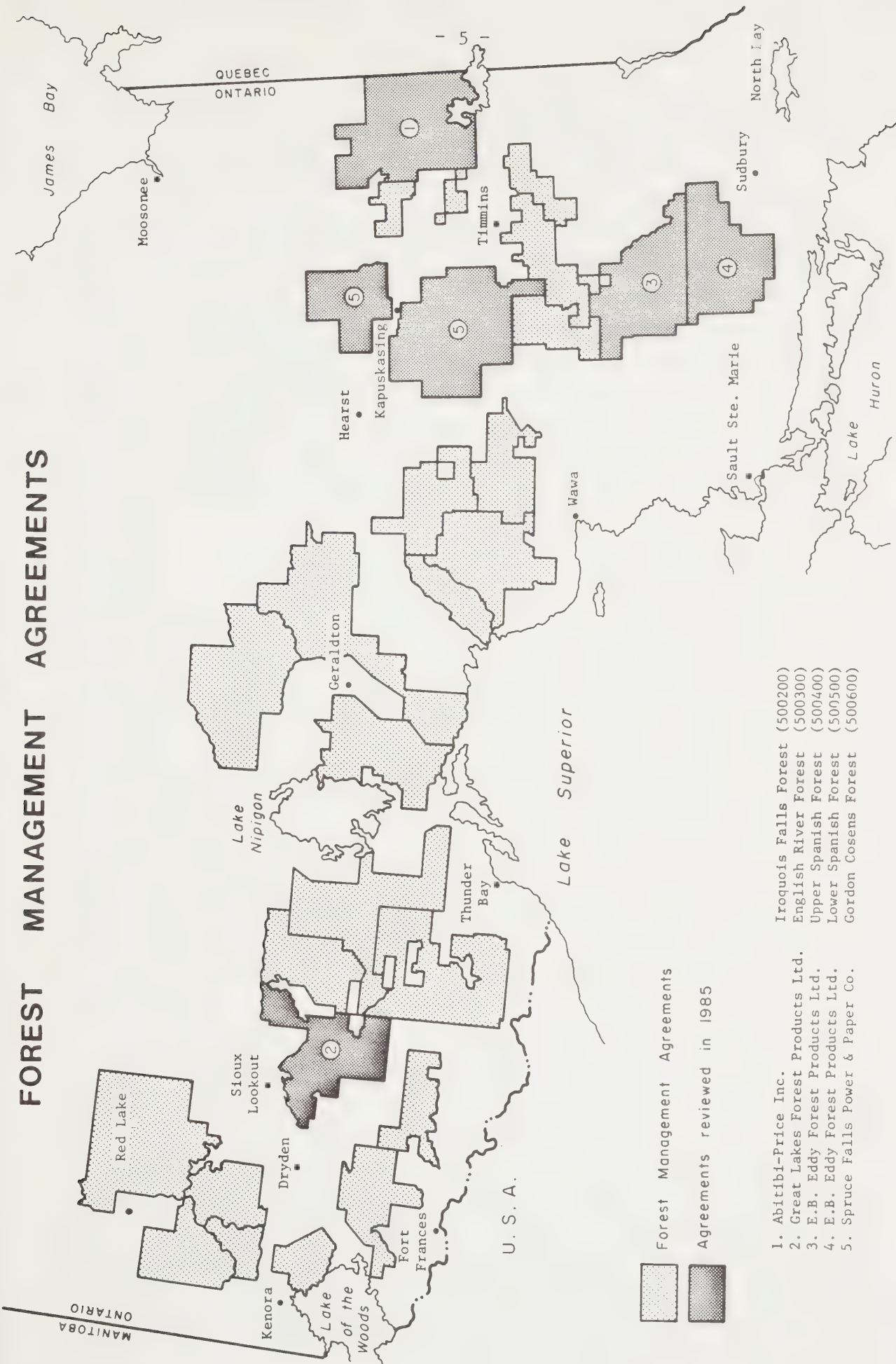
The location of these Agreements is shown in Figure 1.

These reviews were conducted by committees of Ministry staff, appointed from outside the region being reviewed. Each committee was headed by a senior Ministry administrator, assisted by a regional forester and a senior field staff person from the Outdoor Recreation program.

The committees assessed the commitment of the companies to their obligations, and complemented the normal Ministry processes of approval and audits, which deal with verification of work quality and quantity.

The committees reviewed written records, and carried out field inspections to ensure that the following were properly addressed:

# FOREST MANAGEMENT AGREEMENTS



1. Abitibi-Price Inc. (500200)
2. Great Lakes Forest Products Ltd. (500300)
3. E.B. Eddy Forest Products Ltd. (500400)
4. E.B. Eddy Forest Products Ltd. (500500)
5. Spruce Falls Power & Paper Co. (500600)

FIGURE 1  
The geographic location of the five agreements under review and the other agreements in the Province. (November 1985)



- 1) company obligations for planning, harvesting, roads, silviculture;
- 2) surplus;
- 3) integrated resource management;
- 4) records;
- 5) company commitment;
- 6) company concerns.

The reviews presented are the first to be submitted under Legislation and, therefore, are significant in making public the results of forest management activities undertaken by the Forest Management Agreement holders.

#### SUMMARY OF COMMENTS

##### 1) AGREEMENT OBLIGATIONS

The Agreement identifies obligations of the company, namely:

- a) submission dates for management, operating and annual work schedules and reports are to be established and met;
- b) harvest: may not exceed the maximum allowable depletion (annual allowable cut) and companies may be liable for damages following the fifth year if their planned requirements are not harvested;
- c) objectives for treatment of not satisfactorily regenerated (NSR) lands are to be met;
- d) compliance with ground rules which indicate the silvicultural treatments on a site-specific basis;
- e) road construction.

In addition:

- a phase-in schedule during the first five-year term was established to allow for the orderly transfer of regeneration responsibilities from the Ministry to the companies; and
- the Agreement obliges the Minister to pay for

approved road construction, reconstruction and maintenance and for silvicultural work undertaken on the Agreement area by the Agreement holder.

The purpose of the Agreement is to ensure harvested areas are regenerated as specified on a sustained-yield basis. The management and operating plans submitted under the Agreement are statements of the proposed operations for the planning period. Annual work schedules set out the actual activities to be undertaken annually.

#### **a) Plan and Report Submission**

There were minor deficiencies associated with the timely submission of plans, particularly in the early years of the Agreements.

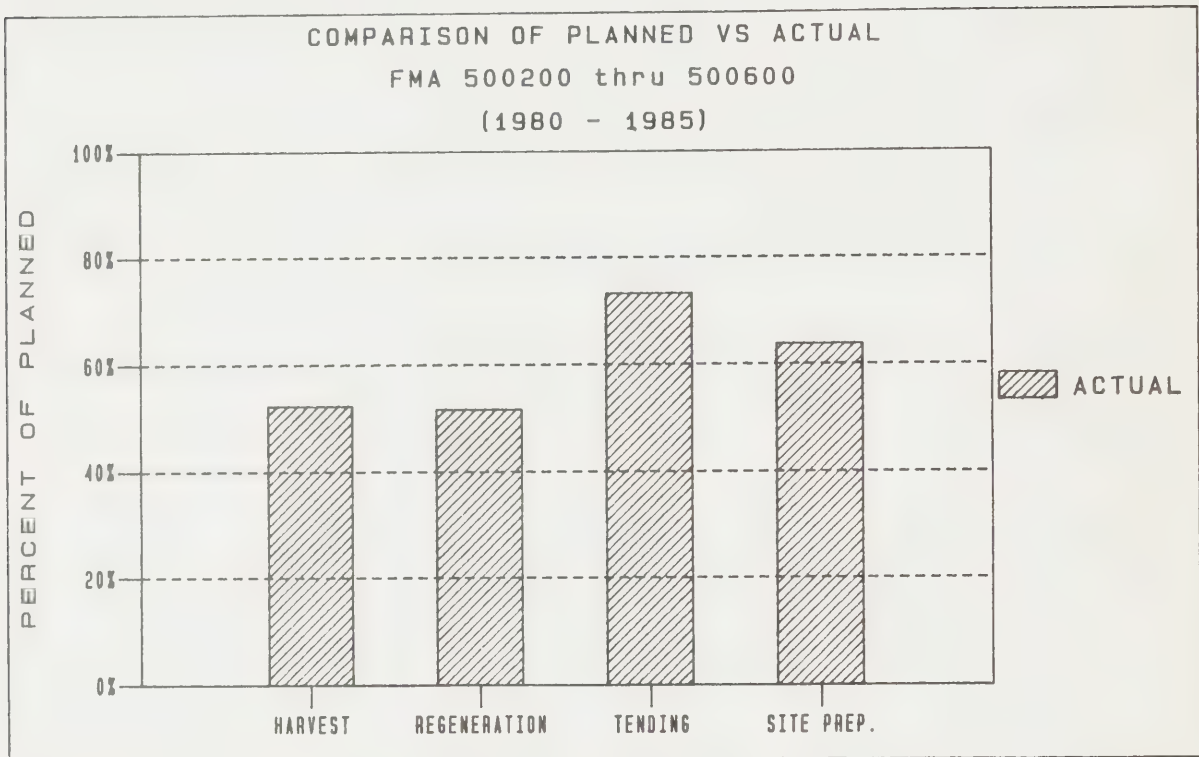
Late submissions of plans were attributable to startup problems with newly-acquired Ministry computer equipment and programs which were used to calculate maximum allowable depletions. The timing of all plan submissions was approved by the Ministry.

The Agreement requires annual reports to be submitted by each company at a specified time. The reports were consistent with company records and were submitted as required.

The planning documents identify the anticipated levels of silvicultural activity and road construction that are expected to occur on the FMA area. The operating plan estimates these activities for five years. These are implemented through annual work schedules which reflect the actual ground conditions encountered. Figure 2 shows a comparison of the actual achievements compared to the planned activities of harvest, regeneration, tending and site preparation. The 100 percent planned level is taken from

the operating plans written four years in advance of the implementation of management activities.

FIGURE 2  
Comparison of the actual levels of harvest, regeneration  
tending and site preparation accumulated to 1985 and  
expressed as a percentage of the levels originally  
planned in the 1980-85 Operating Plan.



#### b) Harvesting

Difficulties were encountered in operating within 10 percent of the planned harvest cut. Fluctuating markets or mill modifications and non-applicability of liquidated damages were reasons the companies did not harvest their projected wood requirements, as required by the Agreement. The Agreement provides for liquidated damages to be assessed if harvest levels are not within 10 percent of those anticipated in the planning documents. Liquidated damages are stumpage fees, charged against the company, for wood which it estimates is required but does not harvest in the five-year operating period. This provision was not in



effect during the first five-year term.

In Ontario, maximum allowable depletion (allowable cut) is determined on an area basis. Each Forest Management Agreement has a maximum allowable depletion calculated which estimates the area available for harvest, natural depletions such as fire, insect or disease damage and permanent reserves or alterations to the land base.

Maximum allowable depletion is recalculated every five years based on the actual activities of the company both in harvesting and in regeneration, and on any other significant natural or other alterations to the land base.

For the five Agreements, in total, the maximum allowable depletion was 48 percent greater than the area indicated as required for company operations. The area actually harvested by the companies was 52 per cent of the forecasted harvest. This breakdown is shown by company in Table 1. The difference between the maximum allowable depletion and the stated requirements is termed surplus and is addressed on page 14.

TABLE 1

Maximum allowable depletion (allowable cut), forecast harvest and actual harvest for five agreement areas for 1980-1985.

		Total hectares (1980 - 1985)		
Company and Forest Name		Maximum Allowable Depletion	Forecasted Harvest	Actual Harvest
500200	Abitibi-Price Inc. - Iroquios Falls Forest	53,950	38,535	21,064
500300	Great Lakes Forest Products Limited - English River Forest	34,265	30,486	22,100
500400	E.B. Eddy Forest Products Ltd. - Upper Spanish Forest	58,176	33,012	11,460
500500	E.B. Eddy Forest Products Ltd. - Lower Spanish Forest	53,685	31,061	1,871
500600	Spruce Falls Power and Paper Co. - Gordon Cosens Forest	104,185	72,525	51,248
Total		304,261	205,619	107,743

### c) NSR Lands

The Agreement has a requirement for the company to treat not satisfactorily regenerated (NSR) lands which existed at the signing of the Agreement. In each company's case, the obligation was substantially exceeded. A comparison of the obligation to the actual achievement is shown in Table 2. Collectively, the four Agreement holders treated 381 per cent of their obligation, mostly through aerial tending.

TABLE 2

Not Satisfactorily Regenerated (NSR) obligation and treatment  
for five agreement areas for 1980-1985.

		hectares	
Company and Forest Name		NSR Obligation	NSR Treated to date
500200	Abitibi-Price Inc. - Iroquois Falls Forest	3,839	8,969
500300	Great Lakes Forest Products Limited - English River Forest	2,405	9,283
500400	E.B. Eddy Forest Products Ltd. - Upper Spanish Forest	695	5,981
500500	E.B. Eddy Forest Products Ltd. - Lower Spanish Forest	608	610
500600	Spruce Falls Power and Paper Co. - Gordon Cosens Forest	10,087	42,345
Total		17,634	67,188

#### d) Silviculture

Silvicultural activities were implemented by all the companies in accordance with the Agreement requirements. In total the companies regenerated 48,121 hectares, tended 48,800 hectares and site prepared 47,546 hectares. A detailed summary of the companies' forest operations is found in Table 3. During the phase-in stage the Ministry implemented the following silvicultural activities: regeneration of 19,944 hectares, tending of 8,463 hectares and site preparation of 14,796 hectares. Table 4 shows the summary of Ministry and company activities.

The relative success of these operations is difficult to measure as most were less than five years of age which is the usual time for formal assessments. Field inspections indicated that the majority of regenerated areas were sufficiently stocked according to the Agreement requirements. Where, however, stocking was not sufficient,



TABLE 3  
Detailed summary of companies' forest operations and ministry  
payments for 1980-85. (Ministry phase-in work not included)

FOREST MANAGEMENT AGREEMENT NO. 500500 to 500600		
HARVEST CUT: 107743 HA		
REGENERATION	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BARERROOT	6215	1707.4
11) CONTAINER	14741	2843.8
SEEDING 1) DIRECT	10267	111.7
11) WITH SITE PREPARATION	5340	641.1
TOTAL, TREATED	36563	5304.0
NATURAL		
STRIP CUTTING	394	
SEED TREE CUTTING	4053	
CLEAR CUTTING	7131	
TOTAL, NATURAL	11558	
TOTAL, REGENERATION	48121	5304.0
TENDING		
CLEANING, CHEMICAL	686	(1)
AERIAL	48084	1711.7
OTHER	30	(1)
TOTAL, TENDING	48800	1711.7
SITE PREPARATION		
MECHANICAL	45837	7379.2
CHEMICAL	1398	17.7
PRESCRIBED BURN	311	6.5
TOTAL, SITE PREP.	47546	7403.4
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	629.67	
SECONDARY	917.06	
TOTAL	1546.73	28071.2 (2)
MAINTENANCE	1929.07	771.6
TOTAL		43261.9

\* Does not include Ministry Phase-In operations.

(1) Costs included under Aerial Tending.

(2) Costs not separated.

TABLE 4  
Summary of Ministry and Company forest operations on five agreement  
areas for 1980-1985.

	hectares
Total harvest	107,743
Regeneration	FMA holder 48,121 Ministry 19,944 Total 68,065
Tending	FMA holder 48,800 Ministry 8,463 Total 57,263
Site preparation	FMA holder 47,546 Ministry 14,796 Total 62,340

follow-up action had been planned by the companies in the planning documents. The Agreement requires company failures to be treated by the Agreement holders at their own expense.

In each case, the activities of the company as outlined in the management documents (ground rules) and inspected in the field, were found to comply with the Agreement requirements.

#### e) Road Construction

In all cases roads were constructed in accordance with approved planning documents. However, the amounts of road constructed were also below the level anticipated in the plans, again primarily due to underharvest but also to some extent to reduction in available Ministry funding. In total, the companies constructed or reconstructed 1546 kilometres of road and maintained 1929 kilometres. A summary of road construction and maintenance is shown in Table 5.

TABLE 5

Road construction, planned and actual, and maintenance for five agreements for 1980-1985.

		Road Construction (1980 - 1985)		
		Total kilometers		
Company and Forest Name	Type		Planned	Actual
500200	Abitibi-Price Inc. -	Primary	- 65.80	56.29
	Iroquios Falls Forest	Secondary	- 146.29	90.06
		Maintenance	- X	453.65
500300	Great Lakes Forest	Primary	- 19.30	45.18
	Products Limited -	Secondary	- 140.20	122.14
	English River Forest	Maintenance	- X	348.59
500400	E.B. Eddy Forest	Primary	- 31.15	38.76
	Products Ltd. -	Secondary	- 616.54	456.86
	Upper Spanish Forest	Maintenance	- X	286.81
500500	E.B. Eddy Forest	Primary	- 150.32	135.97
	Products Ltd. -	Secondary	- 434.78	176.90
	Lower Spanish Forest	Maintenance	- X	211.41
500600	Spruce Falls Power	Primary	- 298.90	353.47
	and Paper Co. -	Secondary	- 51.50	71.10
	Gordon Cosens Forest	Maintenance	- X	628.61
Total		Primary	- 565.47	629.67
		Secomdary	- 1389.31	917.06
		Maintenance	- X	1929.07

### **Phase-in**

Companies and the Ministry were obliged to a phase-in schedule of planting and site preparation work to transfer work originally done by the Ministry. All companies either met or exceeded their rates of phase-in.

### **Payments**

Payments to companies for approved roading and silvicultural activities were made by the Ministry according to the rates and conditions established in the Agreement. A summary of payments made to the companies is found in Table 3.

### **2) SURPLUS**

Each Forest Management Agreement holder is required to declare any surplus which may occur. Surplus is the mathematical difference between the area of maximum allowable depletion and the area indicated as required for company operations. In all cases, surpluses were declared as required. Where requested, companies complied with Ministry requirements to address utilization of the surplus.

### **3) INTEGRATED RESOURCE MANAGEMENT**

Special operating conditions are usually requested by the Ministry through the planning documents to deal with other forest uses, environmental concerns and wildlife requirements. These conditions, such as altered cut patterns, controlled water crossings and restricted access have been implemented satisfactorily by the companies.

### **4) RECORD KEEPING**

Record keeping is inherent in any proper management system and the Forest Management Agreements require all companies



to maintain effective record keeping systems. There are varied systems of records and levels of computerization but all companies have good continuous records of their achievements on the Agreement to date.

#### 5) COMPANY COMMITMENT

The Review Committees assessed commitment by the companies to the Forest Management Agreement program. In all cases the companies were very strongly committed to forest management under the Agreements. Additional staff have been directed to the FMAs either within the company organizations or have been hired from outside. The companies have combined, in various ways, the activities and responsibilities of planning, harvesting and regeneration. The reporting relationship within companies in matters dealing with the Forest Management Agreements is generally through senior management levels. The achievement levels of the companies in the areas of regeneration, tending and site preparation as shown in Figures 3, 4 and 5 indicate a marked increase over the amount of work previously carried out by the Ministry on the same area. Table 6 indicates the harvest in the five year term prior to the FMA was 93,518 hectares. In the first five years of the FMA harvesting increased 15 percent to 107,743 hectares. In the same period, regeneration increased 43 per cent, tending 285 per cent and site preparation 30 per cent over the areas treated in the previous five years.

Over the first five years of the Agreement, the companies have developed new techniques to deal with the challenge of managing both harvest and regeneration.

Great Lakes Forest Products Limited has converted a number of harvesting machines capable of site preparation on areas which were previously difficult to reforest with conventional equipment. Abitibi-Price and Spruce Falls have invested in special wide-tired harvesting equipment

FIGURE 3

Comparison of regeneration initiated annually prior to signing the FMA's in 1980-81 to regeneration initiated by the Companies and the Ministry following signing. (1978 and 1981 were fire years and large amounts of aerial seeding were done)

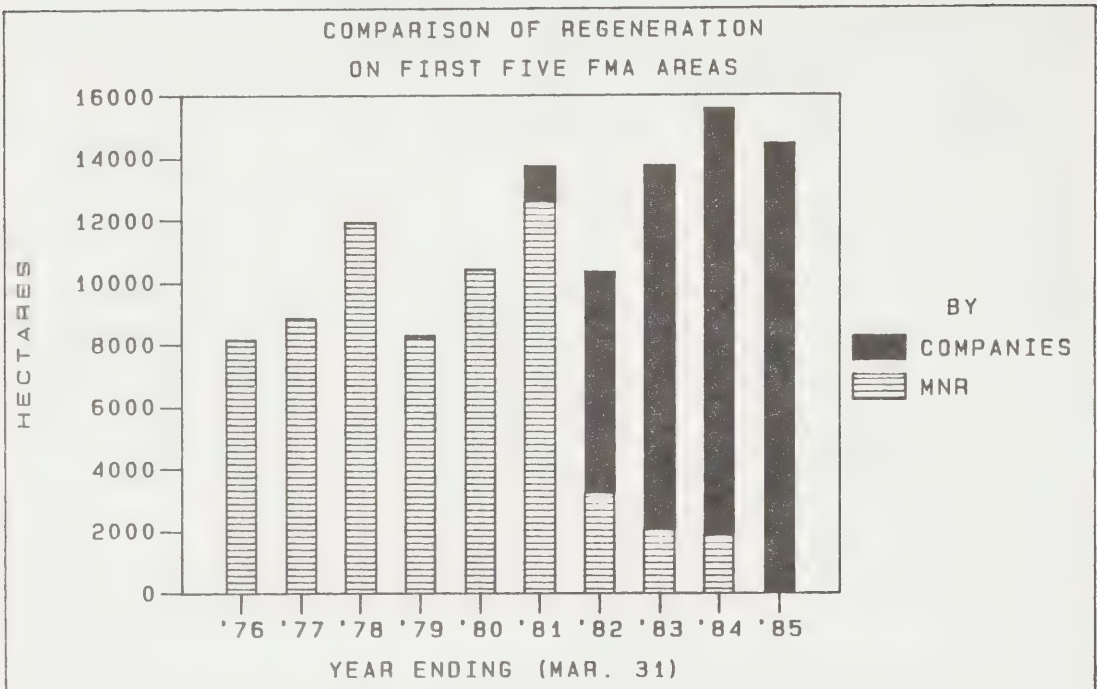


FIGURE 4

Comparison of tending initiated annually prior to signing the FMA's in 1980-81 to tending initiated by the Companies and the Ministry following signing.

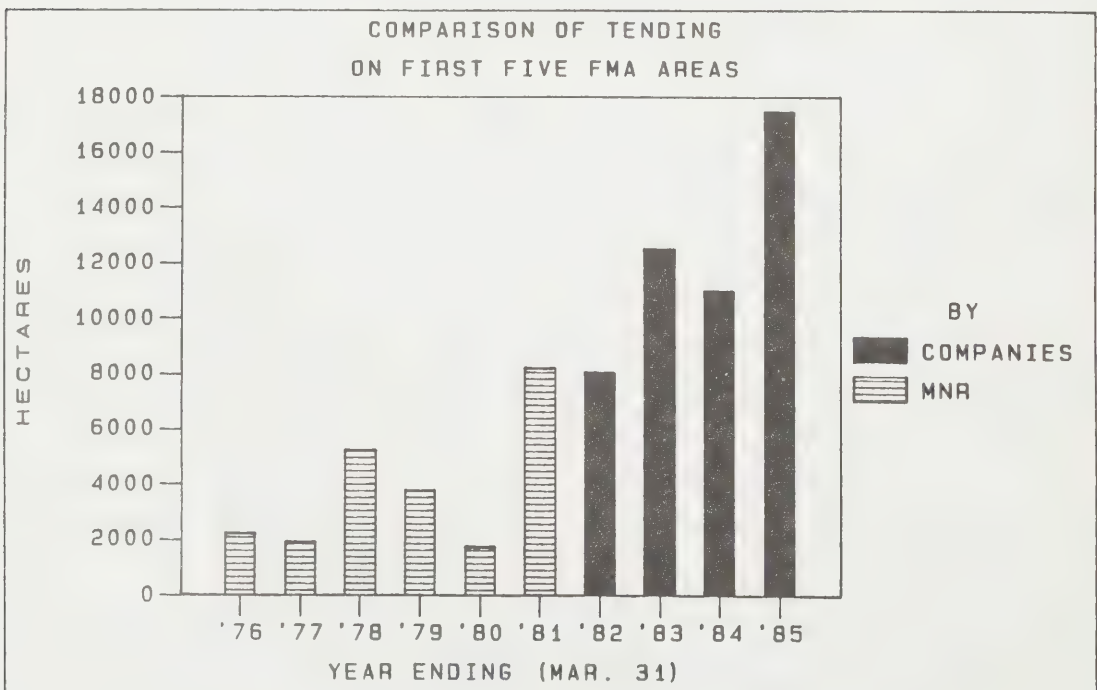


FIGURE 5

Comparison of site preparation initiated annually prior to signing the FMA's in 1980-81 to site preparation initiated by the Companies and the Ministry following signing.

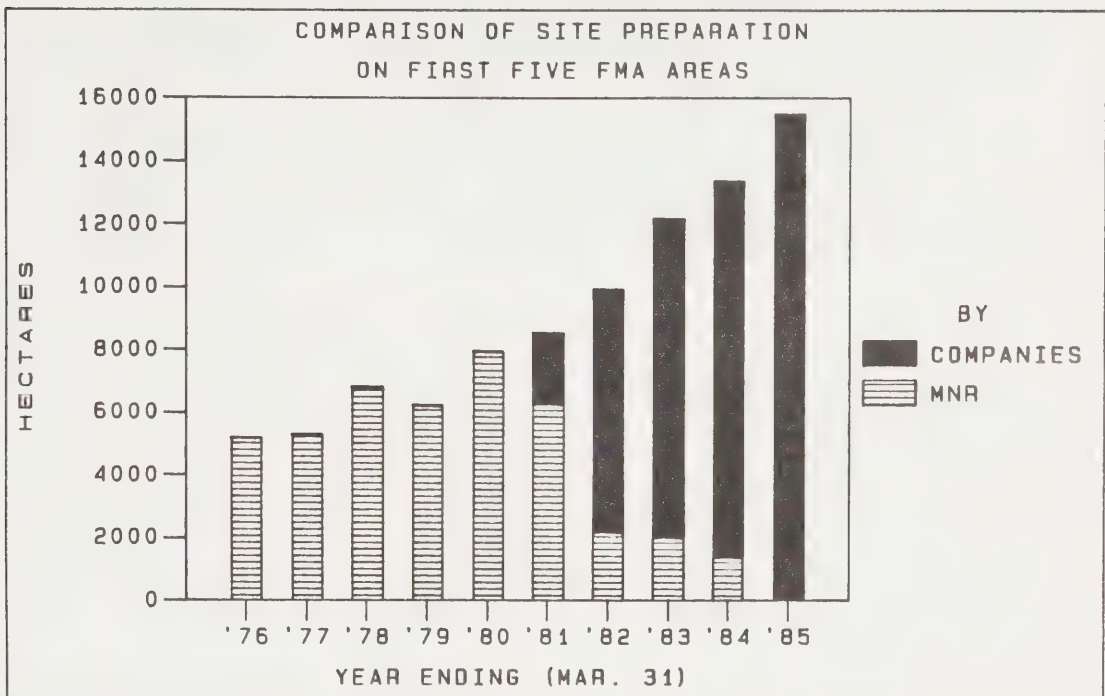


TABLE 6

Ten years of forestry operations on five agreement areas before and after signing FMA's.

	hectares		
	Ministry Prior to Agreement 1976 - 1980	Company and Ministry Following Agreement 1981 - 1985	Percentage Increase
Harvest	93,518	107,743	15
Regeneration	47,702	68,065	43
Tending	14,840	57,267	285
Site Preparation	47,702	62,340	30



which minimizes site damage in the summer, increases utilization and enhances the regeneration effort which follows. E. B. Eddy is replacing undesirable hardwood species such as poplar and birch, on harvested sites, with softwood plantations in areas that normally could have been prescribed for natural regeneration of hardwood.

#### 6) COMPANY CONCERNS

The Review Committees requested the companies to bring forward any concerns dealing with the FMA program. These are summarized as follows:

1. concern over planting container type and quality of planting stock provided either by the Ministry or through private growers;
2. concern over the detail required by the Ministry in the planning documents;
3. concern over the Province's future ability to fund the FMA program in its present form;
4. concerned about putting intensive regeneration efforts on all harvested lands. Companies advocate putting effort closer to the mill, because of the impact of transportation costs, and on more productive lands because of potentially higher yields. They indicate that, in the future, a large portion of the wood requirements will come from managed stands with very little from natural regeneration since the production from managed stands can potentially be at least double current levels. There is a need to focus on prime sites and to concentrate the regeneration effort where the greatest return can be realized;
5. desire to streamline the payment process and move to a single payment for management which would include road construction and maintenance, regeneration, and tending and

site preparation;

6. desire by certain companies to produce their own nursery stock or to make direct arrangements with private growers;

7. concern over under-harvesting stated company requirements by more than 10 percent and being in the position of having to pay liquidated damages in subsequent terms;

8. a feeling that the issue of responsibility of costs for removing roads or closing off roads to enhance or protect resources should be addressed;

9. a feeling that there is a very strong requirement to continue the use of approved herbicides in order to control competing vegetation;

10. concern over insect infestation and the damage to timber crops.

#### RECOMMENDATIONS

The following recommendation is made for all five Agreements:

1. That each company is satisfactorily meeting its obligations, in a businesslike and committed manner, and, therefore that an extension be made to each Agreement for a further five years.

The individual Reviews also make recommendations in respect to improving the administrative and operational aspects of the FMA program. These pertain to certain companies and the Ministry and are summarized below:

1. that the companies undertake to participate in more research and development in the pursuit of minimizing the

risks in the aerial seeding of jack pine, and in selecting the optimum chemical for controlling weeds and other competing species while minimizing the adverse effects on commercial tree species;

2. that the Ministry and industry should resolve the issue of payment for removing or gating roads to enhance or protect resources for the benefit of other forest users;

3. that the industry should be fully apprised and involved in aspects of the current insect infestations, from survey methods and results to public involvement;

4. that the Ministry records of all Ministry silvicultural work be reconciled by the Districts and transferred to the companies, including the status of NSR areas which the Ministry has treated;

5. that the Ministry remove itself from maintaining duplicate project records and only retain summaries of work accomplished to substantiate payments;

6. that free-to-grow assessments on Ministry areas be accelerated by the Ministry and the resultant information be fed into maximum allowable depletion calculations;

7. that an amendment procedure be put into place for correcting discrepancies recorded in Annual Reports when the official record must be changed for legitimate reasons;

8. that the Ministry and companies should continue to address each other's roles and responsibilities on a land base serving many users, as well as the related economic question of where best to invest FMA funding;

9. that the administrative role of the "Designated Crown Representative" be reviewed by the Ministry where necessary;

10. that companies be encouraged to use prescribed burning as a site preparation technique where it is not currently in operational use;

11. that the Ministry review, in further detail, road plans that involve approved third party arrangements.





## **Section 2**

# **Individual Reviews**



**Five Year Review**  
**Abitibi-Price Inc.**  
**Iroquois Falls Forest**  
**Agreement 500200**  
**1980-85**





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## REPORT ON FIVE YEAR REVIEW

ABITIBI PRICE FMA 500200

### Introduction

In accordance with Section 15 of Forest Management Agreement No. 500200 between the Minister of Natural Resources and Abitibi Price Inc., a Review Committee was appointed to determine whether or not the Company had met its obligations satisfactorily under the terms of the management documents.

The Committee was composed of:

Mr. W. C. Stevens, Regional Forester, Northeastern Region,  
Sudbury

Mr. G. Winterton, Regional Biologist, Northwestern Region,  
Kenora

Mr. D. E. McHale, Deputy Regional Director, Northern Region,  
Timmins. (Chairman)

The Committee operated out of Iroquois Falls, reviewing records, interviewing Company staff in both office and field locations throughout the Agreement area during the period August 19 - 23, 1985, inclusive.

### Agreement Requirements

The Agreement identifies obligations to be undertaken by the Company including submission dates for management, operating and annual plans, objectives for treatment of Not Satisfactorily Regenerated (NSR) lands, compliance with ground rules, and other special obligations.

Questioning of Company staff identified minor deficiencies which could be characterized as follows:



- a) late submission of plans particularly in the early years of the Agreement;
- b) compliance difficulties for the Company in the Agreement itself, e.g. Section 8.

Late submissions are attributable to normal start-up problems such as with allowable cut calculations by the Ministry which resulted in failure to get plans submitted on time particularly in the first two years of the Agreement. Late submission dates were approved by the Ministry.

In the case of compliance problems with Section 8 - Annual Allowable Cut, the Company experienced difficulties in harvesting between 90 - 100 percent of the indicated requirements in the planning documents. Fluctuating markets made it difficult for the Company to project wood requirements five years in advance and thus comply with the requirement of Section 8 which requires approval of the Minister to harvest less than 90 percent of the requirements stated in the planning documents.

It was evident in discussion with Company staff that they were very much aware of their obligations. Whenever difficulties were encountered efforts were made to overcome problems through discussions with local Ministry staff. In general the deficiencies were minor and were outweighed by the many obligations in the Agreement the Company did achieve.

#### **Planned vs Actual Activities**

##### **Harvest**

On an area basis, the Maximum Allowable Depletion established for this forest is approximately 53,950

hectares. The harvest planned by the Company in the management documents was approximately 38,535 hectares and the actual harvest for the same period was under 21,064 hectares or about 54 percent of the projected cut. A significant downturn in the marketplace was identified as the major factor for this undercut.

## Roads

The Operating Plan for the five year period of the Agreement provided for the construction of 146 kilometres of primary and secondary roads. Actual construction achieved 69 percent of the target. As with the harvest, there was a reduced requirement for roads thus the planned target was not achieved. There were also Ministry reductions in the funding available for road construction.

The following is a summary of planned and actual road construction and maintenance:

TABLE 1

Summary of the amount of road originally planned and the amount actually constructed for the 1980-85 Operating Plan period. Maintenance is done annually.

---

Kilometers		
Road Type	Planned	Actual
Primary	65.80	56.29
Secondary	146.29	90.06
Maintenance		348.59

---

## Silviculture

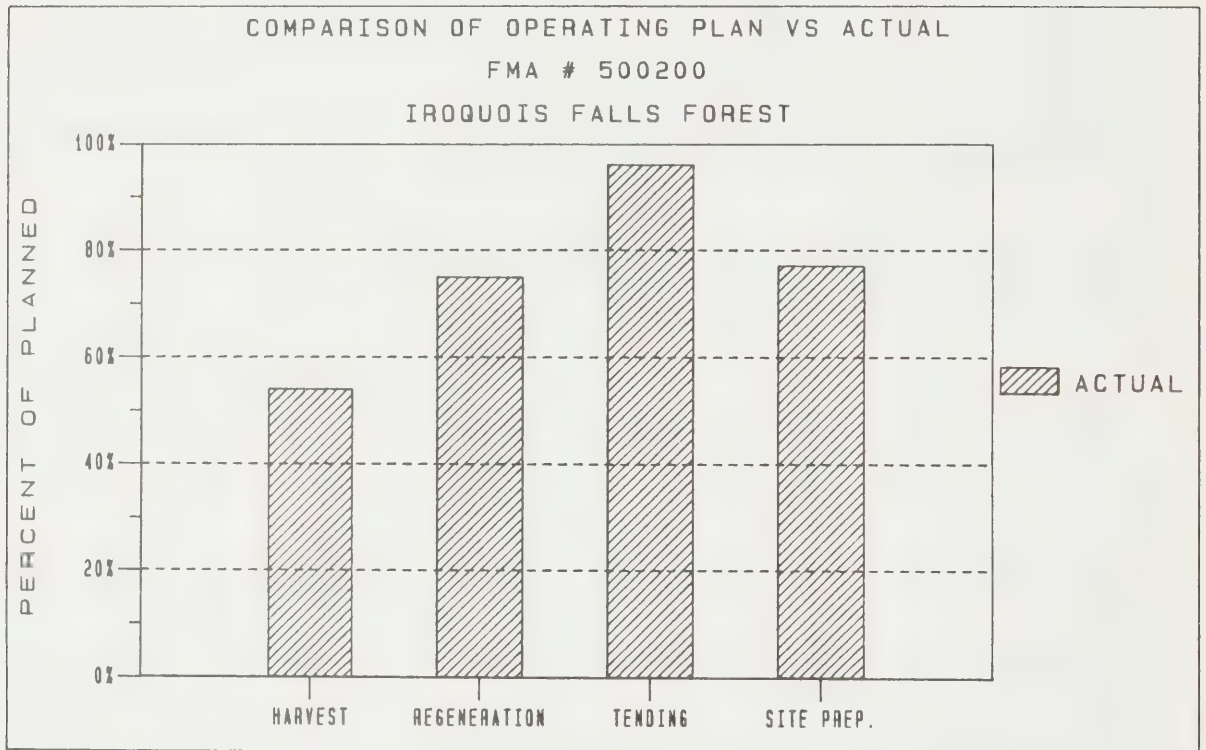
The Company entered into the Agreement with obligations to treat certain NSR lands cut prior to 1980 and requiring treatment. There was also a phase-in period to allow the Company to gradually assume the full silviculture load over

the first five years of the Agreement and treat the current cutover area.

The obligations of treating NSR lands was 3,839 hectares, mainly comprised of tending, and was over-achieved by 234 percent for a total of 8,969 hectares.

FIGURE 1

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1985 and expressed as a percentage of the levels originally planned in the 1980-85 Operating Plan.



For the current period (1980-85) achievements are compared to planned regeneration, site preparation, and tending activities in Figure 1. It should be recognized that the original targets were based on a much higher planned harvest level, thus the achievements are commendable. The Company's harvest and silvicultural activities are summarized in Table 2. The most significant under-achievement was in

natural regeneration to be achieved by the technique of block cuts and group seed trees followed by site preparation for natural seeding. Results of this technique have been poor partly due to the lack of a good seed year during the past nine years, mainly as a result of spruce budworm infestation. The Company has declined to include this technique in the Ground Rules for the next operating period because of the low probability of success to date.

TABLE 2  
Detailed summary of company's forest operations and ministry payments for 1980-85.(Ministry phase-in not included)

FOREST MANAGEMENT AGREEMENT NO. 500200 ABITIBI PRICE INC. IROQUOIS FALLS FOREST		
----- HARVEST CUT: 21064 HA -----		
REGENERATION	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BARERROOT	298	89.6
11) CONTAINER	8715	1695.2
SEEDING 1) DIRECT	0	
11) WITH SITE PREPARATION	0	
TOTAL, TREATED	9013	1784.8
NATURAL		
STRIP CUTTING	86	
SEED TREE CUTTING	254	
CLEAR CUTTING	62	
TOTAL, NATURAL	402	
TOTAL, REGENERATION	9415	1784.8
TENDING		
CLEANING, CHEMICAL	0	
AERIAL	10491	601.5
OTHER	30	(1)
TOTAL, TENDING	10521	601.5
SITE PREPARATION		
MECHANICAL	11546	2029.8
CHEMICAL	315	(2)
PRESCRIBED BURN	0	
TOTAL, SITE PREP.	11861	2029.8
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	56.29	
SECONDARY	90.06	
TOTAL	146.35	3025.8 (3)
MAINTENANCE	453.65	173.0
TOTAL		7614.9

\* Does not include Ministry Phase-In operations.

(1) Costs included under Aerial Tending.

(2) Costs included under Mechanical Site Preparation.

(3) Costs not separated.



## **Field Examination**

Two days of field examinations via helicopter and car provided opportunities to view examples of regeneration techniques and results covering the five years' road locations, bridge construction techniques, shoreline reserves, moose blocks and harvesting techniques.

Construction techniques, e.g. bridges and roads are undertaken with care and do not appear to have adversely impacted upon the natural environment. Block cuts, including the moose concentration and lakeshore reserves conform to Ministry requirements. For the many regeneration projects viewed, survival rates for the first two-year assessments ranged from the low 80's to the high 90's. The older plantings were rapidly reaching free-to-grow status. The results, both in survival and growth were very gratifying. The success of the herbicide "Roundup" was very evident and an integral part of the tending program, particularly on the more productive sites where competition is a serious impediment to achieving free-to-grow status.

## **Management Obligations**

Through Management and Operating Plans and Annual Work Schedules, the Company undertakes obligations to achieve both short term and long term objectives relative to the maintenance and improvement of the productivity of the forest. These include annual harvesting and regeneration plans, road location activities, etc. Comparing the planned to the actual showed a close correlation and in most cases the deviations were the result of reduced size of operation, i.e. cut less area than planned.

Longer term objectives are also being addressed including the improvement of poplar utilization (a study and resultant proposal is currently under review within the Company); the

improvement of genetically improved seed through Company participation in the Ontario Tree Improvement Council and the development of improved harvesting techniques such as the high flotation skidder which significantly reduces site damage.

### **Maintenance of Productivity**

The Forest Management Agreement obligates the Company to produce successive crops of timber on a sustained yield basis. Table 3 shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Maximum Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the full Allowable Depletion is not depleted it will remain at the same or higher levels in subsequent terms.

TABLE 3

Comparison of the 1980-1985 allowable cut, total depletion, harvest and regeneration activities and the 1985-1990 allowable cut. (Ministry Phase-In operations included.)

FOREST MANAGEMENT AGREEMENT NO. 500200					
ABITIBI-PRICE INC.					
1980 to 1985					
(hectares)					
Working Group or Forest Unit	1980-1985 Maximum Allowable Depletion	Total Depletion	Harvest	Regeneration Total	1985-1990 Maximum Allowable Depletion
Spruce,1	12584	6668	6648		12498
Spruce,2	20784	8394	8327		20680
Spruce,3	3643	150	141	N	3698
Balsam Fir	2375	1051	1051	/	2202
Poplar	8225	2227	2227	A	8416
White Birch	3535	1207	1207		3413
Jack Pine	2805	1463	1463		2813
Total	53951	21160	21064	13871	53720

## Surplus

According to the harvesting performance in the first five years, the Company has cut 39 percent of the calculated allowable cut, 55 percent of their stated requirements. Their projections for 1986 to 1990 are a planned cut equal to that of 1980 to 1985. If the actual cut by the Company is at its anticipated levels for the next five years, there will be area surplus to the Company's requirements. The Company indicated concerns about this calculated surplus as at the present time they purchase approximately 50 percent of their mill requirements and are subject to a variability of market conditions. All of these factors have the potential to alter the mill requirements on an annual basis or impact on the wood supply area required. The Company indicated that surplus should be viewed with these above caveats to put it into perspective before disposition is considered by the Minister under Section 9 of the Agreement.

## **Integrated Resource Management**

The Company has responded to requests by the Ministry in terms of reserves, road location, bridge crossings and layout and cutting of forest to accommodate other resource concerns. Field examination showed conformance to requests and good site protection practices.

## **Records**

The Company has an excellent record system which includes extensive use of computers. For each request made by the review team, maps of roads, silvicultural treatments showing planned and actual were readily provided. Road construction records were equally detailed and provided good documentation. Integration of silviculture and financial records is accomplished through the use of the same project maps for both sets of records. Thus, what was done in the field was the same as that submitted for payment to the Ministry. Overall, this is an excellent system that the Ministry should investigate as a model.

## **Company Commitment**

Based upon responses during the review and field examination relative to stated objectives and targets, the Company is clearly committed to the FMA and to making it succeed. Upon entering into the FMA, the Company increased their staff by five and indicate if the level of Company operations increases, so will the the staffing levels. The Company has undertaken extensive training programs, including the development of manuals, to train existing staff, thus expanding the focus of their jobs from wood production to silvicultural aspects. Their efforts at developing and modifying regeneration techniques, harvesting techniques and efforts in improving technology, combined with those aimed at improving staff capabilities, attest to their commitment.



### **Company Concerns**

Section 8 of the Forest Management Agreement requires the Company to harvest a minimum 90 percent of their requirements as forecast in the Operating Plan. The Agreement further provides for the payment of liquidated damages by the Company for the difference between actual harvest and 90 percent of the forecast harvest.

The liquidated damages provision did not apply in the first five year term of the Agreement but comes into effect for the second and subsequent five year terms. The Company expressed concern that the unpredictability and variability within the market could make effective compliance with Section 8 difficult.

The question of treating all harvested lands needs to be reviewed. The Company advocates putting effort closer to the mill because of the impact of transportation costs and on more productive lands because of potentially higher yields. They indicated that in the future, 80 percent of wood requirements would come from managed stands and 20 percent from natural regeneration and also that production from these managed stands could potentially be at least double current levels.

### **Ministry Concerns**

The basic issue of what the land base is to be used for is of concern to both the Ministry and the Company. From a Company point of view their objective is to grow wood for the mill. Additionally, the Ministry sees the land base providing other benefits. So long as these other user impacts such as wildlife, fisheries and tourism do not result in significant increases in wood production costs or losses of wood production areas the Company is very

co-operative. There is, however, potential for disagreement. At present, the Company is not being fully compensated for costs, and they do not expect to be but compensation for some activities, e.g. site preparation, has increased by 39 percent (inflation allowance) and actual costs are up 130 percent over the past five years. As wood production costs go up, receptivity to costs attributable to other uses will likely lessen.

There is an emerging issue of how much of the land base is to be treated in order to maintain the viability of the Company plants supplied off the agreement area. If one half to one third of the forest area, through intensive management, will produce the same volume as the total area does at present, then there is an argument to concentrate regeneration on the better sites and leave the poorer sites to return to production naturally.

In summary, there is need to continue the dialogue to develop a clearer understanding of the role and responsibilities of the Company and the Ministry on a land base serving so many users, as well as the economically related questions of where to best invest regeneration dollars.

### **Recommendations**

1. The Company has met its obligations under the Agreement. Therefore it is recommended that the Agreement be extended for a further five years.
2. The Ministry should investigate the Company's record system in detail and remove itself from maintaining duplicate project records.
3. The Company and Ministry should continue to address each other's roles and responsibilities on a land base serving many users, as well as the related economic questions of where to best invest FMA funding.



## **Five Year Review**

**Great Lakes Forest Products Ltd.  
English River Forest  
Agreement 500300  
1980-85**





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## 1. Introduction

The concept behind the Forest Management Agreement (FMA) is that the forest industry will take on the forest management responsibilities for a given area or a piece of land. The primary objective of the F.M.A. was that the responsible company would manage the land base in order to provide for a continuous supply of forest products from the F.M.A. area for its plants and ensure the forests on the F.M.A. area are harvested and regenerated on a sustained yield basis. The task of the Review Committee therefore was to determine if Great Lakes Forest Products Ltd. had satisfactorily met its obligations under the Agreement.

### 1.1 The Review Committee

To carry out this assessment, the following Review Committee was appointed:

Dr. M. Klugman, Regional Director, Northeastern Region  
(Chairman)

Mr. T. Isherwood, Regional Forester, Northern Region

Mr. R. Thompson, Regional Biologist, North Central Region

### 1.2 Tasks of the Review Committee

The main tasks of the Review Committee were to ascertain if:

- the productivity of the land base was being maintained;
- all terms and conditions of the original agreement were being met;
- all conditions of the planning documents were being

implemented;

- Great Lakes Forest Products Ltd. had taken on full responsibility for managing the English River Forest;
- the Company had committed its operations to integrated management of the land base;
- the Company had put in place an acceptable record-keeping system.

In addition the Review Committee was to make any appropriate observations and note any Company concerns.

## 2. Procedure

The Review Committee addressed its tasks in the following manner.

### 2.1 Agreement Defaults - Were There Any?

### 2.2 Agreement Requirements

The following was undertaken to determine whether the Company had met its Agreement requirements.

The Review Committee:

- reviewed the Management Plan for submission adherence;
- reviewed the Operating Plan for submission adherence;
- reviewed the Annual Plans for completeness and accuracy;
- reviewed the Annual Reports for completeness and accuracy;
- determined whether the special terms and conditions in the ground rules had been met and adhered to;
- examined whether the Company had met its obligations with regard to regenerating land classed as Not Satisfactorily Regenerated (NSR land).

### 2.3 Records Systems

The Review Committee reviewed the Company's record-keeping

systems (depletion, silviculture, accounting, etc.) for completeness and accuracy.

## 2.4 Company Commitment and Organization

The Company's organizational structure was examined and discussed with senior members of the Company.

## 2.5 Field Trip

A two day field trip was undertaken in order to assess silviculture, road construction, areas of concern and other forest uses in full operation.

# 3. Findings

## 3.1 Agreement Commitments

The Company was not found to be in default of any of its commitments:

Plans were submitted on time and approved within agreed upon time frames; year-end reports were accurate and on time; the Company actually over accomplished its phase-in requirements. In other words, Great Lakes Forest Products Ltd. took over their management responsibilities sooner than need be; the Company's NSR commitment for 2405 hectares for the five year period was met. The Company over accomplished its NSR commitment, however two major fires in 1976 (Ignace 7 and 17) within the Agreement area contributed to the total. Total NSR treatment was 9283 hectares. This was 273 percent in excess of the obligation.



### 3.2 Planned Versus Actual Activities

#### 3.2.1 Harvest

The Maximum Allowable Depletion (allowable cut) for the English River Forest for 1980-85 was 34,365 hectares. In 1980-81 the Company forecast a depletion of 30,486 hectares. The actual harvest was 22,100 hectares, or 72 percent of the planned depletion. The actual depletion was 27,641 hectares or 90 per cent of planned. This underutilization was primarily due to a downturn in the economy and a resultant decrease in mill demand.

#### 3.2.2 Roads

Great Lakes Forest Products Ltd. has put in place a well planned and designed access system in the English River Forest during the five year period. The planned versus implemented access program in the five year operating period appeared to the Review Committee to be realistic for the size of the Unit. (Table 1)

TABLE 1  
Summary of the amount of road originally planned and the amount actually constructed for the 1980-85 operating period. Maintenance is done annually.

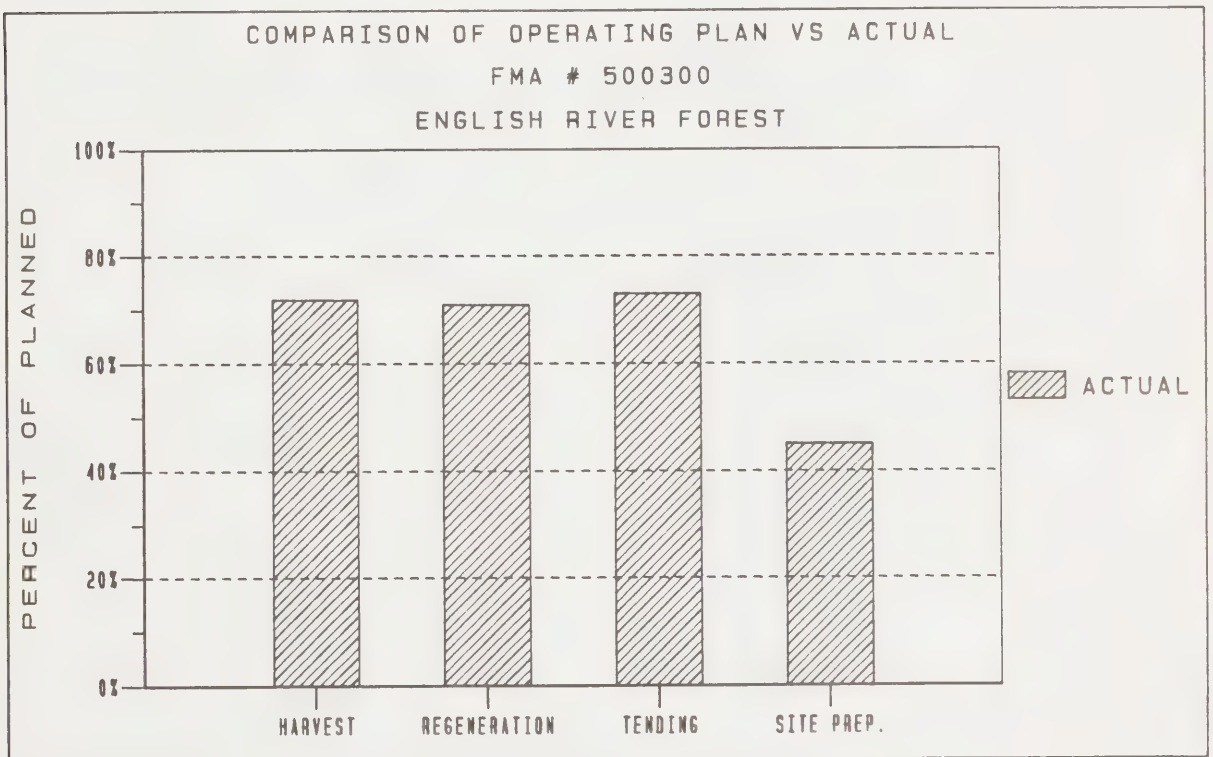
Road Type	Kilometers	
	Planned	Actual
Primary	19.3	45.18
Secondary	140.2	122.14
Total	159.5	167.32
Maintenance	-	348.59

The Company invoiced the Ministry for high quality primary and secondary roads. Therefore, the intent of the F.M.A. access program was adhered to in the English River Forest.

### 3.2.3 Silviculture

FIGURE 1

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1985 and expressed as a percentage of the levels originally planned in the 1980-85 Operating Plan.



The Company's actual depletion was 90 percent of that planned. Silvicultural activity was proportionate to the level of harvest as shown in Figure 1 with the exception of site preparation due to the availability of harvested area. The Company's total activities in silviculture are found

in Table 2. The Company regenerated 14,502 hectares, tended 1,193 hectares and site prepared 10,299 hectares between 1980-85. When compared to annually scheduled operations, which reflect actual ground conditions, the Company achieved over 80 percent of their objective.

TABLE 2  
Detailed summary of company's forest operations and ministry payments for 1980-85.(Ministry phase-in not included)

FOREST MANAGEMENT AGREEMENT NO. 500300 GREAT LAKES FOREST PRODUCTS LTD. ENGLISH RIVER FOREST		
----- HARVEST CUT: 22100 HA -----		
<u>REGENERATION</u>	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BAREROOT	456	89.2
11) CONTAINER	1234	255.7
SEEDING 1) DIRECT	7319	57.8
11) WITH SITE PREPARATION	5340	641.1
TOTAL, TREATED	14349	1043.8
NATURAL		
STRIP CUTTING	308	
SEED TREE CUTTING	56	
CLEAR CUTTING	89	
TOTAL, NATURAL	453	
TOTAL, REGENERATION	14802	1043.8
TENDING		
CLEANING, CHEMICAL	0	
AERIAL	1193	29.4
OTHER	0	
TOTAL, TENDING	1193	29.4
SITE PREPARATION		
MECHANICAL	10299	1097.9
CHEMICAL	0	
PRESCRIBED BURN	0	
TOTAL, SITE PREP.	10299	1097.9
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	45.18	
SECONDARY	122.14	
TOTAL	167.32	2044.5 (1)
MAINTENANCE	348.59	139.0
TOTAL		4354.6

\* Does not include Ministry Phase-In operations.

(1) Costs not separated.

### 3.3 Maintenance of Productivity

The Forest Management Agreement obligates the Company to

harvest and regenerate the Forest in such a manner as to produce successive crops of timber on a sustained yield basis. Table 3 shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Maximum Allowable Depletion during the next five year term is also shown. Normally the Maximum Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the Maximum Allowable Depletion is not depleted it will remain at the same or higher levels in subsequent terms.

TABLE 3  
Comparison of the 1980-1985 allowable cut, total depletion, harvest and regeneration activities and the 1985-1990 allowable cut. (Ministry Phase-In operations included.)

FOREST MANAGEMENT AGREEMENT NO. 500300					
GREAT LAKES FOREST PRODUCTS LIMITED					
1980 to 1985					
Working Group or Forest Unit	1980-1985 Maximum Allowable Depletion	(hectares)		Regeneration Total	1985-1990 Maximum Allowable Depletion
		Total Depletion	Harvest		
Spruce	12660	13217	10327		11823
Balsam Fir	5815	2195	2195		5911
Jack Pine	9195 (1)	10195	8246	N	14225
White Pine	50	74	74	/	100
Other Conifer	- (1)	78	78	A	-
Poplar	4720	1345	1105		4932
White Birch	1875	346	75		2079
Total	34315	27641	22100	23667	39070

- (1) Initial (80-85) Allowable Cut for Jack Pine was based on no acceleration factor. All others are based on using full Average Age.  
(2) Combined with other Forest Units for calculation purposes.

### 3.4 Records

A major obligation confronting all F.M.A. Agreement holders during their first five years of operation was to establish a comprehensive record-keeping system.

The Company's silvicultural records could be recovered and verified quickly and efficiently. All records could be traced from the office files through to project completion in the field.

The depletion records were up to date and accurate.

The Company invoicing and accounting records were accurate, up to date and auditable.

It was a pleasure for the Review Committee to review these records which were easily retrievable and well kept.

### 3.5 Company Commitment and Organization

The Review Committee found that Great Lakes has put in place the required organizational structure which is required to carry on integrated management. The Company has combined their logging operations with their silvicultural operations. This type of integration was one of the precursors to successful administration of an FMA. An excellent illustration of this is that the field jobs have been integrated, i.e. the cutters site prepare and then plant thus giving the individual a total view of the field operations. This has led to very high morale in the field.

Great Lakes Forest Products Ltd. has a two-tier organization. Their Head Office in Thunder Bay develops policy and approves Company plans. Their Divisional Offices (2) are responsible for the implementation of their operational program.



The Company and the Ministry have developed a very good communications network which is working very efficiently. This is a major credit to the two organizations.

Great Lakes Forest Products Ltd. continues to be amenable to displaying before the public all their planning efforts (Management and Operating Plans). The planning carried out for the first five years was commendable in that there were only two major revisions needing public input. This demonstrated to the Review Committee that planning expertise is now available within the Company.

If in the future Company plans have to be put before environmental scrutiny, the Review Committee feels the planning expertise within the Company is available to meet this requirement as well.

The Company has invested a considerable amount of its equity in the Agreement Area. They have hired a professional biologist whose responsibility is to carry out research and operational development work in silviculture. Another example is their research and development of silvicultural equipment, much of it at their own cost. The Company has not been backward in infusing their own money into many programs. Some examples of Company investment are their conversion of harvesters into prime movers for site preparation on difficult sites and numerous planting and seeding trials.

### 3.6. Integrated Resource Management

The special terms and conditions outlined in the planning documents were adhered to. These included:

- Modified cutting in a chevron pattern on a designated portion of the English River.
- Road re-alignments to protect fish spawning areas.

- Environmental considerations in bridge construction on the Suzanne River.
- No cutting in the Bonheur Kame area.

### 3.7 Company Concerns

The Company expressed concern over the availability of growth and yield data suitable for evaluating investments in silvicultural activity.

### 3.8 Field Trip

A two day field trip was organized both by helicopter and ground transport to view and verify the activities recorded in the office. While it was too soon to judge the success of certain treatments, all activities recorded in the office and selected for field verification existed on the ground.

## 4. Recommendations

Arising out of the Great Lakes Forest Products Ltd. English River F.M.A. review are two recommendations:

### 4.1 Recommendation 1

The Review Committee recommends that the individual F.M.A. holders be allowed to establish their own forest records systems as long as they can provide the required data within given time frames. The companies must have a system which can withstand public scrutiny. Duplication of record keeping should be eliminated. The Company and the Ministry should establish a reporting format that would eliminate duplication.

#### 4.2 Recommendation 2

The Review Committee recommends that the Great Lakes Forest Products Ltd. English River F.M.A. be extended for a further five year term.

#### 5. Conclusion

The Review Committee's conclusion from the review is that Great Lakes Forest Products Ltd. have fully taken on their responsibilities under the terms and conditions of the F.M.A. Agreement. They have very clearly demonstrated their ability and commitment to management on a given licenced area.



## **Five Year Review**

**E.B. Eddy Forest Products Ltd.  
Upper and Lower Spanish Forest  
Agreement 500400 and 500500  
1980-85**





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## INTRODUCTION

The Minister of Natural Resources signed two Forest Management Agreements with E. B. Eddy Forest Products Ltd., effective April 1, 1980. These agreement areas, numbers 500400 and 500500, were termed the Upper Spanish Forest and the Lower Spanish Forest, respectively.

Section 15 of the Agreement states "The Minister agrees to determine at the end of each term of five consecutive years of the period of this agreement whether or not the obligations of the Company under the management documents have been performed....".

To carry out this assessment, the following Review Committee was appointed:

Mr. Terry Dodds, Regional Forester, Algonquin Region  
Mr. Jim Young, District Manager, Sioux Lookout  
Mr. Dennis Schafer, Regional Director, Southwestern Region  
(Chairman)

The Committee began by studying the Agreements, the Management Plans, the Five-year Operating Plans and analyzed quantitative performance in relation to planned activities. This was followed by more in-depth examinations and quality assessments in the Company offices and in the field.

The Upper and Lower Spanish Forests are contiguous areas, both supply the E. B. Eddy Mills at Nairn and Espanola and both are managed by the same company personnel. In any review of this Company's operations it is neither practical nor logical to examine the practices on each Forest separately. Accordingly, references to conditions, attitudes and records are essentially aimed at both Forests unless specifically stated otherwise.

## AGREEMENT REQUIREMENTS

In terms of appropriate long and short term management planning matching with activity on the ground the Company is upholding its obligations under the Agreements.

Plans are produced for Ministry approval as per the schedule, logging operations conform to legislation, reforestation accomplishments are in excess of the requirements and adherence to the silvicultural ground rules is exemplary.

Invoices submitted by the Company for road construction, road maintenance, and silvicultural work were compared to map records and then to activities on the ground and no discrepancies were apparent.

## PLANNED VERSUS ACTUAL ACTIVITIES

In a review of this nature one can become preoccupied with adherence to a plan at the expense of challenging the original plan. In this exercise, the 5-year operating plan, supplemented by annual work schedules becomes the guiding force and the document upon which Ministry approval is based. It receives public review and is the Ministry's source of information for future funding and planting stock production. From the time of preparation, other factors come into play e.g. market conditions, labour vagaries, site conditions, and funding constraints, which can change the forecasted level and types of activities. Amendments, or adjustments, are made via annual work schedules. Hence to compare the actual results to the planned activities five years ago is not appropriate. Such information compiled by the Ministry was nevertheless reviewed with the Company.



## Roads

The degree of road construction in both Forests compared to other companies and compared to the area harvested had been identified as an item of concern. Accordingly, the Committee examined this. We found that the Company has not violated any terms of the Agreement in this regard. We did not see roads which were not required and, of course, roads on maps are also on the ground. Further, we had no quarrel with the road standards. There is a records problem brought on by the practice of paying 85 percent of road construction costs one year followed by the balance the next year when gravelling is completed. This has led to some double counting of the mileage of roads constructed but it is being reconciled. Table 1 shows the planned versus actual activities of road construction as reported annually.

TABLE 1  
Summary of the amount of road originally planned and the amount actually constructed for the 1980-85 operating period. Maintenance is done annually.

---

				Kilometers	
				Planned	Actual
500400	E. B. Eddy Forest	Primary		31.15	38.76
	Products Ltd.	Secondary		616.54	456.86
	Upper Spanish Forest	Maintenance		-	286.81
500500	E. B. Eddy Forest	Primary		150.32	135.97
	Products Ltd.	Secondary		434.78	176.90
	Lower Spanish Forest	Maintenance		-	211.41

---

The new primary roads on the Lower Spanish are, for the most

part, not yet in use except for servicing, commuting and recreation. A few secondary roads have also been built in advance. The Company makes an attempt to build roads one year in advance of anticipated need. Several conditions serve to explain a relatively high mileage of secondary roads. Firstly, many areas are extremely rugged, thin-soiled and bordering on inoperability. These stands call for winding roads, steep grades and large quantities of fill. The terrain also reduces the skidding distance, necessitating more roads. Secondly, the standing conifer material is interrupted by pure hardwood stands, or the conifer is found in mixed stands. Both conditions dictate added miles of road per unit and thence per hectare reforested.

The members of the Review Committee were impressed when they compared the proposed road locations to the final constructed routes in difficult terrain. Very little deviation was evident, all of which points to a talented photo interpretation and road construction corps.

### **Harvesting**

The Company's logging and regeneration operations are aimed at maintaining a constant wood flow into its mills at Nairn and Espanola. Supplementing the supply from the FMA areas is a larger proportion of purchased material in the form of wood chips from sawmills and roundwood from private holdings in the Espanola area. This practice brings with it the vagaries of other producers and contributes substantially to the complexities of planning the harvests in the FMA areas.

If one reviews the total volume removed from both Forests over the five-year period compared to the five-year operating plan there is a significant volume of material not removed. However, if one goes back to annual plans compared to the actual harvest on an annual basis, the figures are much more in line, eg. the cut has been 85 percent of planned by volume

on a year to year basis. In making this comparison one must also consider the Company's method of allocating stands for harvest. It attempts to maximize the yield from every stand by allocating the gross area and total volume. The question of operability is subsequently determined on the ground. Some companies arbitrarily reduce these figures and label part of the area "by-pass".

The Maximum Allowable Depletion (allowable cut) calculated for both Forests is shown in Table 2. The Company intended, at the beginning of the planning period, to harvest 33,012 hectares in the Upper Spanish Forest and 31016 hectares in the Lower Spanish Forest. The actual levels of harvest accumulated to 1984-85 were 11,460 and 1,871 respectively.

Table 2 compares the area available for depletion (Maximum Allowable Depletion) to the levels forecasted and those actually harvested.

TABLE 2

Maximum Allowable Depletion for Upper and Lower Spanish Forests 1980-1985.

Total Hectares (1980 - 1985)			
Company and Forest Name	Maximum Allowable	Forecasted Harvest	Actual Harvest
500400 E.B. Eddy Forest Products Ltd. - Upper Spanish Forest	58,176	33,012	11,460
500500 E.B. Eddy Forest Products Ltd. - Lower Spanish Forest	53,685	31,061	1,871

The low levels of harvest on the Lower Spanish Forest were due to a consolidation of efforts on the Upper Spanish Forest because of marketplace economics and due to the fact the Lower Spanish Forest had not been previously accessed.

The Company indicated the planned pulp mill expansion was in progress and was not completed until 1983 and the sawmill expansion not completed until 1985 as further reasons for underharvesting the areas. We suspect that another cause would be a lack of incentive to declare any surpluses. Under the terms of the Agreement, no penalties for failure to utilize the planned harvest cut are applicable during the first five years. Realizing that little can be done to change history, the Committee reviewed those sections of the 1985-1990 Operating Plan to see how the matter was addressed. We found that surpluses have been declared and theoretically this volume is available to others. Generally speaking, this surplus material is in mixed, inaccessible stands.

### Silviculture

For the most part, the Company is following a clear-cut-and-plant silvicultural system. In even-aged jackpine this is appropriate and successful. The Committee inspected (albeit briefly) almost every undertaking by the Company. Details were not recorded but an impression was gained by the extent of the Company's work and its approach to the task.

Several forms of site preparation are being used, with Young's Teeth on the blade of a heavy bulldozer being most common. Windrowing in heavy residual poplar stands is successful but costly.

Planting stock is a mixture of bare root and containerized seedlings (Japanese paper pots).

As competition overtakes the planted stock, aerial release



with 2,4-D is practiced.

Figures 1 and 2 show the comparison between the levels of operations planned in 1980-81 versus the actual achievements in 1980 through 85. Tables 3 and 4 summarize the actual operations on both Forests respectively. The harvest levels on the Upper Spanish Forest over the five year term were 35 percent of those forecast initially in 1980-81. However, regeneration, tending and site preparation were 72, 52 and 64 per cent respectively. when compared to annual work schedules which reflect actual ground conditions, the actual forest operations either approximated or exceeded those planned.

In reviewing the planned vs actual regeneration, a shortfall is evident which is directly related to the reduced harvest. In treating recent or current cutover lands, the Company is one year, or less, behind the cutters. In terms of overall cost and keeping the land in production, this is a sound practice but by being so close to the logging there will be understandable variances in annual planning.

Aerial seeding is down from that forecasted and has been replaced with planting. Seeding has been successful in this area but it is not a reliable technique. Should this, or any other regeneration method, fail the Company was obliged to retreat the area at its expense. Since seeding is a much less costly approach than planting the Committee commends the Company and the Ministry on agreeing to share the cost of retreatment in the upcoming operating period. Given the obvious potential of this technique, and the significant savings to the Ministry and the Company, the Committee adds the following recommendation.

#### RECOMMENDATION NO 1

THAT THE COMPANY UNDERTAKE MORE RESEARCH AND DEVELOPMENT IN THE PURSUIT OF MINIMIZING THE RISKS IN THE AERIAL SEEDING OF JACKPINE. PAST RESEARCH SHOULD BE REVIEWED AND TRIALS SHOULD



FIGURE 1

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1985 and expressed as a percentage of the levels originally planned in the 1980-85 Operating Plan.

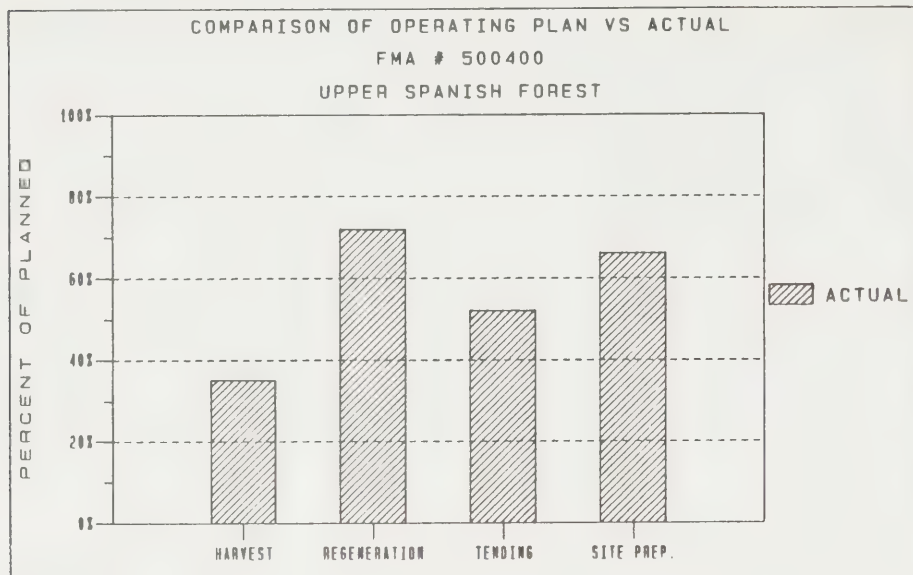


TABLE 3

Detailed summary of companies' forest operations and ministry payments for 1980-85. (Ministry phase-in work not included)

FOREST MANAGEMENT AGREEMENT NO. 500400

E. B. EDDY FOREST PRODUCTS LTD. UPPER SPANISH FOREST

HARVEST CUT: 11460 HA		
REGENERATION	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BAREROOT	1588	420.1
ii) CONTAINER	2196	376.2
SEEDING 1) DIRECT	427	4.0
ii) WITH SITE PREPARATION	0	
TOTAL, TREATED	4211	800.3
NATURAL		
STRIP CUTTING	0	
SEED TREE CUTTING	0	
CLEAR CUTTING	207	
TOTAL, NATURAL	207	
TOTAL, REGENERATION	4418	800.3
TENDING		
CLEANING, CHEMICAL	686	(1)
AERIAL	1086	36.4
OTHER	0	
TOTAL, TENDING	1772	36.4
SITE PREPARATION		
MECHANICAL	7929	1438.6
CHEMICAL	0	
PREScribed BURN	0	
TOTAL, SITE PREP.	7929	1438.6
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	38.76	
SECONDARY	456.86	
TOTAL	495.62	6209.2 (2)
MAINTENANCE	286.81	113.6
TOTAL		8598.1

\* Does not include Ministry Phase-In operations.

(1) Costs included under Aerial Tending.

(2) Costs not separated.

FIGURE 2

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1985 and expressed as a percentage of the levels originally planned in the 1980-85 Operating Plan.

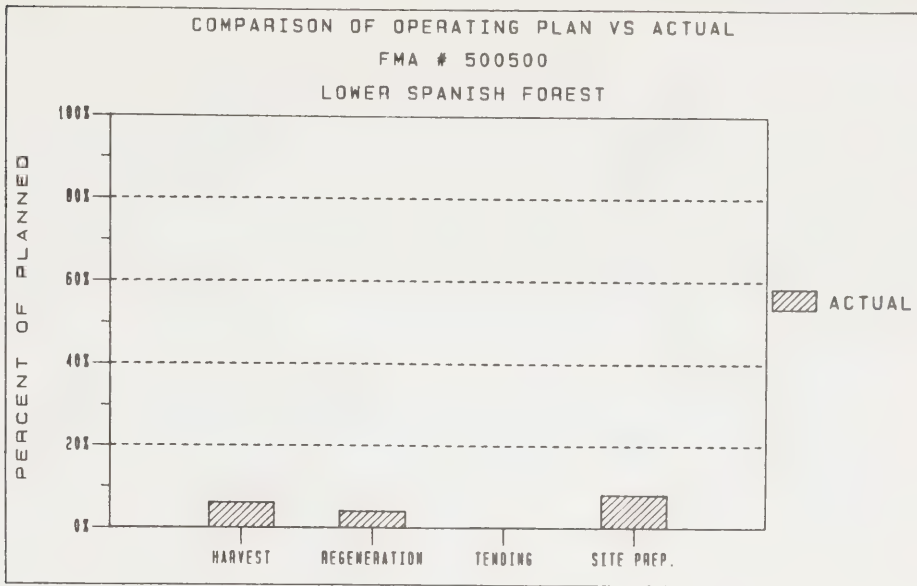


TABLE 4

Detailed summary of company's forest operations and ministry payments for 1980-85.(Ministry phase-in not included)

FOREST MANAGEMENT AGREEMENT NO. 500500  
E. B. EDDY FOREST PRODUCTS LTD. LOWER SPANISH FOREST

HARVEST CUT: 1871 HA		
<u>REGENERATION</u>	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BARERROOT	55	14.1
11) CONTAINER	199	38.0
SEEDING 1) DIRECT	0	
11) WITH SITE PREPARATION	0	
TOTAL, TREATED	254	52.1
NATURAL		
STRIP CUTTING	0	
SEED TREE CUTTING	0	
CLEAR CUTTING	0	
TOTAL, NATURAL	0	
TOTAL, REGENERATION	254	52.1
<u>TENDING</u>		
CLEANING, CHEMICAL	0	
AERIAL	0	
OTHER	0	
TOTAL, TENDING	0	
<u>SITE PREPARATION</u>		
MECHANICAL	814	167.9
CHEMICAL	0	
PRESCRIBED BURN	0	
TOTAL, SITE PREP.	814	167.9
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	135.97	
SECONDARY	176.90	
TOTAL	312.87	5823.4 (1)
MAINTENANCE	211.41	86.6
TOTAL		6130.0

\* Does not include Ministry Phase-In operations.

(1) Costs not separated.

BE CONTINUED ADDRESSING SUCH FACTORS AS SITE, APPLICATION RATES AND TIMING.

Hand in hand with aerial seeding is the possibility of prescribed burning as a site preparation tool. The Company and the Ministry recently cooperated in conducting a burn in the Cartier area. Such trials should be continued with the aim of reducing site preparation costs.

There is a shortfall in plantation release which is not serious and is attributable to (1) the unavailability of contractors (spray aircraft) for the short period in the Fall, and, (2) uncertain assessments the previous year. (Plant competition can be borderline one year and severe the next.) Jackpine appears to be sensitive to herbicides during the growing season which leaves a short period before leaf fall for treatment.

#### RECOMMENDATION NO 2

THAT THE COMPANY UNDERTAKE RESEARCH FOR THE OPTIMUM CHEMICAL FOR CONTROLLING THE WEEDS OF THESE FORESTS, TIME OF APPLICATION, RATES, ETC. WHILE MINIMIZING THE ADVERSE EFFECT ON JACKPINE.

The Company was obligated to treat Not Satisfactorily Regenerated (NSR) lands under the Agreement. Table 5 shows the obligations and area actually treated.

TABLE 5

Not Satisfactorily Regenerated obligations and actual treatments

Agreement No. and Name	NSR	NSR
	Obligation to date	Treated to date
500400 E.B. Eddy Forest Products Ltd. - Upper Spanish Forest	695	5,981
500500 E.B. Eddy Forest Products Ltd. - Lower Spanish Forest	608	610

#### MAINTENANCE OF PRODUCTIVITY

The Crown Timber Act requires, after the end of each term of five years of an agreement to "lay before the Assembly a report in respect of the relationship between the harvest and growth, including regeneration, of timber during the said term on the area subject to the agreement". This section deals with that requirement specifically.

The Forest Management Agreement obligates the Company to harvest and regenerate the Forest in such a manner as to produce successive crops of timber on a sustained yield basis. Table 6 and 7 show a comparison of the Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. The present demands of the Company do not require full utilization of the Allowable Depletion and as such it is expected to remain at the levels indicated.

TABLE 6

Comparison of the 1980-85 Allowable Depletion, total depletion, harvest and regeneration and the 1985-90 Allowable Depletion.  
(Ministry phase-in included)

COMPARISON OF HARVEST AND GROWTH  
FOR THE UPPER SPANISH FOREST

FOREST MANAGEMENT AGREEMENT NO. 500400

E. B. EDDY FOREST PRODUCTS LTD.

1980 to 1985

Working Group or Forest Unit	(hectares)				1985-1990 Maximum Allowable Depletion
	1980-1985 Maximum Allowable Depletion	Total Depletion	Harvest	Regeneration Total	
Jack Pine	13894 (1)	8255	6306		17718
Spruce	13410	2854	2310		13884
Balsam Fir	- (2)	212	212	N	4365
Other Conifer	- (2)	29	29	/	431
Poplar	17414	2732	2108	A	24703
White Birch	13458	494	494		14414
Other Hardwood	- (2)	1	1		1049
Total	58176	14577	11460	10572	76564

- (1) Initial (80-85) Allowable Cut for Jack Pine was based on a maximum acceleration factor of 1.3 x normal. All others are based on using full Average Age.  
(2) Combined with other Forest Units for calculation purposes.

TABLE 7

Comparison of the 1980-85 Allowable Depletion, total depletion, harvest and regeneration and the 1985-90 Allowable Depletion.  
(Ministry phase-in included)

COMPARISON OF HARVEST AND GROWTH  
FOR THE LOWER SPANISH FOREST

FOREST MANAGEMENT AGREEMENT NO. 500500

E. B. EDDY FOREST PRODUCTS LTD.

1980 to 1985

Working Group or Forest Unit	(hectares)				1985-1990 Maximum Allowable Depletion
	1980-1985 Maximum Allowable Depletion	Total Depletion	Harvest	Regeneration Total	
Jack Pine	14195 (1)	1100	1083		21125
Spruce	6025	197	179		6305
White Pine	2785	29	28	N	2854
Red Pine	1120	6	6	/	1172
Balsam Fir	- (2)	11	11	A	1755
Other Conifer	- (2)	-	-		142
Poplar	14550	476	476		20954
White Birch	14130	88	88		15212
Other Hardwood	880	-	-		1056
Total	53685	1907	1871	632	70572

- (1) Initial (80-85) Allowable Cut for Jack Pine was based on a maximum acceleration factor of 1.3 x normal. All others are based on using full Average Age.  
(2) Combined with other Forest Units for calculation purposes.



## **INTEGRATED RESOURCE MANAGEMENT**

This section deals with other users of this vast forested area -- the tourist outfitter, the hunter, the cottager, the fisherman, the canoeist, etc.. The land has numerous large and beautiful lakes, long rivers and exciting scenery. Logging can, of course, impact on these activities. The Company's plans usually address these other interests. Where conflicts develop, the Ministry encourages resolution between the users.

The area of the Upper and Lower Spanish Forests is affected by myriad uses and interests, in addition to timber production. The Company recognizes the necessity of coexisting with these other interests. For many years it has opened its roads to the public and has attached importance to its image and reputation in the Espanola area. Local officials are quick to point out, however, that it is not their responsibility to enhance these other resources but their actions indicate a willingness to protect significant features.

The Committee studied several files related to watercrossings, size of cuts and shoreline reserves. This was followed by a helicopter inspection of most of the controversial sites.

### **Watercrossings**

The Company has constructed a number of major watercrossings in the Upper and Lower Spanish Forests.

#### **a. Mozhabong Lake, Ivy Township**

The Mazhabong Lake Causeway was examined from the air. No problems were noted with this crossing. Because of tourism concerns in the area (ie Indian Lake), a number of alternative access routes were examined. Two public meetings were held in Chapleau and Espanola. The

Mazhabong route was found to be the least controversial and cheapest. Currently, the road is gated approximately six miles from Mozhabong Lake in order to prevent public access to the Mozhabong - Indian System.

b. Bagsverd Creek, Chester Township

Originally, the Company had experienced some problems with this crossing in that the construction crew commenced operations without proper supervision. As a result, a very large right-of-way was cleared adjacent to the creek and a lot of fine material and debris was bulldozed into the creek. The Company apparently reacted quickly to correct the situation and did their best to rehabilitate the site. A site inspection of the bridge revealed only minor erosion problems.

c. Mississauga River, Fulton Township

This is a major river crossing across a Waterway Park. This bridge was inspected from the air. The Company took special precautions to build the bridge i.e. constraints were imposed as to the time of year the bridge was built and also in the manner which they could get their equipment across the river. The company appears to have done an excellent job on this bridge as verified by the complimentary letter from the District Manager in Chapleau. The Company has kept the bridge approach right-of-way very narrow and erected the bridge with minimal disturbance to shoreline vegetation.

d. Onaping River, Leinster Township

This is a major bridge crossing. The Ministry asked for a narrow right-of-way on the bridge approaches. They also put conditions on the time of construction of the bridge, i.e. the Company was not allowed to work during spring and

early summer periods to avoid conflict with walleye spawning and incubation.

e. Friday Creek, Rhodes Township

Alternate sites for this crossing were examined. The site that was chosen was not the cheapest but was chosen in order to avoid possible disturbance of walleye spawning runs.

f. Alces Creek, Foucault Township

The West Branch Road crosses Alces Creek in several places. Alces Creek is a cold water creek and the Ministry and Company have co-operated closely to try and minimize the number of crossings and to keep the road as far from the creek as possible.

The Company in cooperation with the Ministry has carried out some stream improvements in Alces Creek in order to improve trout production. The Company placed rock and also created pools in sections of the creek. This project was written up in the Ministry's Aski magazine. The Company is to be complimented for their efforts in this regard.

### Other Operating Constraints

The Ministry has put a number of constraints on Company operations in order to protect other values. The following are some examples:

Peninsula on Ramsay Lake, Kelso Township

The Company was asked to maintain a narrow right-of-way at the narrowest part of the peninsula and to keep all harvesting operations 400 feet from the Lake. The main

road is to be pulled out upon completion of the operation. This site was inspected from the air and the Ministry condition would appear to have been met.

Ramsay Lake is a tourism lake and the Ministry's intent is to prevent further public access to the lake. This intent operations in this area until the moose hunt was over.

#### Deluge Lake, Ethel Township

This is a potential outpost camp lake and the Company was asked to remove all roads within 20 chains of the lake. The area has now been scarified and there are no roads within 15 chains of the lake; it was uncertain whether further action is required by the Ministry.

In summary, the Company has followed any special conditions that the Ministry has imposed on their operations. Special conditions have been placed on operations in order to protect fisheries habitat, tourism concerns, park values, nesting sites and moose aquatic feeding areas. Apparently, the Ministry has not found it necessary to impose special conditions to protect moose upland habitat. Most of the Company's recent cutovers appear to be fairly well broken up due the rough topography.

From discussions with Company staff, two concerns became evident:

It is becoming commonplace for the Ministry to place conditions on the Company to remove roads and bridges once operations are completed. It has not been resolved as to who pays to do this work. The Company feels that the Ministry should pay them to do it as it often means bringing equipment back into the area. The Ministry of course feels the Company should pay i.e. a cost of doing business.

The Ministry would like to close contentious roads as soon as



possible after harvesting operations are completed. The Company outlined one situation where they pulled a road out and found a year later that their regeneration efforts were not successful and had to be retreated. The Company would like to leave all roads in place until regeneration is to the "free to grow" stage. This of course, in most situations, is not satisfactory to the Ministry.

#### RECOMMENDATION NO 3

THAT THE MINISTRY AND COMPANY SHOULD RESOLVE THE ISSUE OF PAYMENT FOR REMOVING OR GATING ROADS TO ENHANCE OR PROTECT RESOURCES, WHICH MAY OCCUR, FOR THE BENEFIT OF OTHER FOREST USERS.

#### Approach to Areas of Concern

The Company pointed out that the Ministry approach to Areas of Concern or Modified Management Areas is quite different on the two FMAs. In the Upper Spanish the Ministry has delineated the specific areas whereas in the Lower Spanish, the Ministry outlines the particular concerns to the Company and asks the Company, based on existing guidelines, to propose the cutting prescriptions. The Company sees the strengths and weaknesses of both approaches and has no strong feelings as to which is better. The approach taken in the Lower Spanish most closely resembles the Ministry's policy.

#### FOREST PROTECTION

While protection of the forest from insects, fire and disease continues to be a Ministry responsibility it is an integral component of forest management and was reviewed with the Company.

Coming from other parts of the province, the members of the Review Committee were not prepared for the striking effect of



the current Jackpine Budworm epidemic. The miles and miles of red and brown foliage was frightening to the point of causing us to ask ourselves why we were examining some small plantations when the entire forest was being devoured around us. It seemed akin to ordering a Smokey Bear costume in the face of a major fire. Larvae were everywhere -- from mature trees to newly planted trees.

Extensive spraying with Bacillus thuringiensis (B.t.) took place in 1985 and we are not yet aware of the effect of this nor the predictions for next year. If the same stands are attacked again resulting in mortality, salvage attempts would be futile (i.e. took much, too inaccessible, not enough time to keep ahead of wood boring insects) and losses could jeopardize the mill's futures. If we are overstating the problem and overreacting to the visual impact, we will be pleased to be corrected.

The Company feels it has the most to lose through these attacks but also feels that it is on the outside looking in. Although there is no official word on the effectiveness of the 1985 treatment, Company officials indicate that it looks patchy. The use of B.t. might not be as appropriate as a chemical as fenitrothion and they feel that this chemical should have been tried on a small block in 1985 for comparison purposes. If B.t. is the optimum deterrent, given the size of the affected area and the varying stages of development of the insect, it could be necessary to plan two applications during the same season.

Company officials also feel that the public involvement followed by decision making prior to treatment is far too late for proper planning.

#### RECOMMENDATION NO 4

THAT THE COMPANY BE FULLY APPRISED AND INVOLVED IN ALL ASPECTS OF THE CURRENT JACKPINE BUDWORM ATTACK -- FROM SURVEY METHODS

## AND RESULTS TO PUBLIC INVOLVEMENT.

The Company recognizes that jackpine stands are fire susceptible and has geared itself to provide the initial attack on fires on Company operations although it is a Ministry responsibility. The Company employs a Forest Protection Supervisor on a year round basis whose primary responsibility is training. Four crews, normally based in different parts of the Forests, are trained for initial attack.

## RECORDS

The Company maintains a comprehensive set of silviculture and road records. These records can be reconciled with annual reported work programs and are summarized by activity type and by township. Each silvicultural record has a copy of the silvicultural card and any subsequent assessments done for the project. The Company has master township maps of harvest and silvicultural treatments and road construction.

Certain recommendations flow from this excellent record-keeping system and from the recognition that the Ministry has completed its phase-out role.

## RECOMMENDATION NO 5

THAT ALL MINISTRY RECORDS OF MINISTRY SILVICULTURAL WORK ON BOTH FORESTS BE RECONCILED BY THE DISTRICTS AND TRANSFERRED TO THE COMPANY, INCLUDING THE STATUS OF NSR AREAS WHICH THE MINISTRY HAS TREATED. FTG ASSESSMENTS ON MNR TREATED AREAS SHOULD BE ACCELERATED BY MNR AND THE RESULTANT INFORMATION FED INTO THE MAXIMUM ALLOWABLE DEPLETION CALCULATIONS.

## RECOMMENDATION NO 6

THAT THE MINISTRY REMOVE ITSELF FROM MAINTAINING DUPLICATE

PROJECT RECORDS AND ONLY RETAIN SUMMARIES OF WORK ACCOMPLISHED TO SUBSTANTIATE PAYMENTS.

#### COMPANY COMMITMENT

A review of this nature is surely aimed at the question, 'Is the FMA working?'. A number of topics have been examined and presented in this report as part answers to that question. The basic criterion for success in any such venture is staff attitude. If all levels of the organization embrace a satisfactory level of commitment and dedication, anything will work. In the case of E. B. Eddy Forest Products, we continually saw and felt evidence of these qualities. From the top of the Forestry Division to the foresters in the camps we found enthusiasm and dedication. Personnel in the field such as Messrs. Boddy, Bruce, Allain, Morandin, Pearce, ... are results-oriented, cost conscious, innovative and they know their areas.

A corporate commitment to the Forest Management Agreements is apparent in the Company's expanded organization. Some staff have been shifted from other duties to work on the FMAs on a full time basis and four new foresters have been hired as a result of signing the FMAs, including a former Ministry employee with a technology development and genetics background. In addition, there are approximately 15 graduate and undergraduate foresters and technicians on seasonal staff.

While planning and management prescriptions are developed by a central "Resources Development" group, the operations are carried out in an integrated fashion. Both harvesting and silviculture come under a District Superintendent. This marriage brings with it efficiencies in manpower and equipment as well as "cleaner" logging which minimizes forest renewal costs.

#### COMPANY CONCERNS

Regardless of the successes and the Company's embracement of the FMA philosophy of shifting the responsibility for reforestation to the wood user, one cannot spend eight days (and several nights) with Company personnel without listening to suggestions for improvement. These are outlined below in no particular order.

1. The Company has serious concerns centred on the Province's future ability to fund the Provincial FMA program in its present form. They point to rising costs and the inability to control many of these costs due to labour demands.

Currently, the Company treats 100 per cent of the cutover unless both parties agree that an area is untreatable. Perhaps in the future more focus must be put on the prime sites and other neglected sites. Stumpage rollback is also an industry suggested method of maintaining funds in the program.

2. Some Company officials feel that there is room to streamline the administrative process. At the present time invoices are submitted throughout the year for road construction (based on joint measurements), for site preparation, for planting, for spraying, for road maintenance and then the Ministry sends the Company an invoice for Crown Dues.
3. Under the terms of the FMA, it is the Ministry's responsibility to provide planting stock. As the Ministry was gearing up to furnish this extra material for a number of FMA areas, E. B. Eddy indicated a willingness to produce their own requirements under similar arrangements with the Ministry's private growers. This request was not accepted.

With respect to the supply of containized stock the Company raises the following points.



- stock quality varies between producers;
- some stock does not meet the standards and shipments are difficult to turn aside when planters are waiting and areas have been prepared;
- the Ministry is late in notifying the Company regarding the of stock, thus permitting little time to inspect stock before shipping;
- there are delivery problems in using the lowest tender arrangement ("truckers accept no responsibility, truckers get lost, unloading system is unsafe....");
- private growers show little regard for the user (Company);
- the Company clearly wants a designated supplier and wants to work with that supplier on a continuing basis. (The Committee acknowledges the Company's point but there are logistical problems in this related to the jackpine/spruce growing schedules. Nevertheless we suggest that the Northern Region consider the matter carefully.);
- the 'plug', in lieu of the paper pot, should be investigated;
- some bare root stock this year shows evidence of a moisture stress problem;
- Chapleau bare root stock had excessive root pruning in 1985.

The Review Committee did not investigate the above concerns -- they have been raised by the Company and are presented here for the Ministry's consideration.

4. Sporadic meetings have been held between the Company and senior MNR field staff from both regions. These meetings have provided the forum for resolving differences and exchanging ideas in a face to face setting. The Company feels these sessions should take place regularly.
5. The Company also has serious reservations surrounding the Designated Crown Representative (DCR) arrangement and this



is dealt with next.

## OBSERVATIONS

The Designated Crown Representative (DCR) for each forest is the Ministry's spokesperson on Company/Ministry matters and represents the Company on internal MNR issues. This arrangement was developed in response to company requests for one MNR voice. After five years, the present DCRs (in Gogama and Espanola) admit to a real discomfort level in their roles. They see themselves as something between the Company and the Ministry and not really belonging to either. Their duties take them across district boundaries and in this anomalous setting, they seem to have some cloudy responsibility but little authority. In the minds of some Ministry staff, they have too much authority and they circumvent the normal chain of command.

The DCRs feel that on everything but minor issues, the Company deals with a Regional Forester, a District Manager or Queen's Park. Too often the DCR then receives notification of a change in direction, or resolution of an issue, from someone in the Company.

The Company, while harbouring no major concerns with the incumbents, is not happy with the present arrangement. They point to having five different DCRs on the two forests over the five-year period. While the Company supports the concept of dealing with one Ministry person for each forest, it does not work well in practice.

Each DCR speaks for two districts and he is really in no position to do so, particularly on non-forestry topics. Consequently, the Company often deals on a first hand basis with a District Manager, by-passing the DCR. When the DCR arrangement was proposed, the Company anticipated a more

senior person in this role.

This issue was much debated and the Committee makes the following recommendation:

RECOMMENDATION NO 7

THAT THE MINISTRY SHOULD CONSIDER THE PRESENCE OF ONE DESIGNATED CROWN REPRESENTATIVE TO ADMINISTER MINISTRY INVOLVEMENT ON BOTH AGREEMENT AREAS.

Notwithstanding the suggestions made in this report, the Review Committee is pleased to recommend:

RECOMMENDATION NO 8

THAT THE TWO AGREEMENTS WITH E. B. EDDY FOREST PRODUCTS LTD. BE EXTENDED FOR A FURTHER TERM OF FIVE YEARS.

SUMMARY OF RECOMMENDATIONS

1. That the Company undertake more research and development in the pursuit of minimizing the risks in the aerial seeding of jackpine. Past research should be reviewed and trials should be continued addressing such factors as site, application rates and timing.
2. That the Company undertake research for the optimum chemical for controlling the weeds of these forests, time of application, rates, etc. while minimizing the adverse effect on jackpine.
3. That the Ministry and Company should resolve the issue of payment for removing or gating roads to enhance or protect resources, which may occur, for the benefit of other forest users.

4. That the Company be fully apprised and involved in all aspects of the current Jackpine Budworm attack---from survey methods and results to public involvement.
5. That all Ministry records of Ministry silvicultural work on both forests be reconciled by the districts and transferred to the Company, including the status of NSR areas which the Ministry has treated. FTG assessments on MNR treated areas should be accelerated by MNR and the resultant information included in the Maximum Allowable Depletion calculations.
6. That the Ministry remove itself from maintaining duplicate project records and only retain summaries of work accomplished to substantiate payments.
7. That the Ministry should consider the presence of one Designated Crown Representative to administer Ministry involvement on both Agreement areas.
8. That the two Agreements with E. B. Eddy Forest Products Ltd. be extended for a further term of five years.



## **Five Year Review**

**Spruce Falls Power and Paper Co.  
Gordon Cosens Forest  
Agreement 500600  
1980-85**





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## INTRODUCTION

The Spruce Falls Power and Paper Company Limited has operated successfully since its incorporation on April 28, 1926 in the town of Kapuskasing, Ontario. It is a major employer in the area which supports a population of approximately 17,000 and an economy heavily dependent on the viability of the Spruce Falls enterprise.

The Company operates primarily on wood obtained from the Gordon Cosens Forest, located in the heart of the northern Ontario clay belt, and includes all or part of 86 Crown Townships.

On September 19, 1980, the Spruce Falls Power and Paper Company Limited and the Minister of Natural Resources signed Forest Management Agreement # 500600 for a term of twenty years. Commencing April 1, 1980, the agreement covered a total of 16,104,156 square kilometres.

The agreement also outlined a review process to be followed at specified times. As stated in paragraph 33:

"The Minister agrees to determine at the end of each term of five consecutive years of the period of this agreement whether or not the obligations of the company under the management documents have been performed or satisfactorily performed in such term..."

The following is a report of the areas inspected by the Review Committee, during the F.M.A. review of the Spruce Falls Power and Paper Company Limited, during the week of August 19-27, 1985, by the following appointed Committee:

Mr.J.T.Rudolph - Regional Forester, Thunder Bay

Mr.J.R.Chevalier -Regional Biologist Sudbury

Mr.D.R.Johnson -Regional Director, Kenora (Chairman)

## AGREEMENT REQUIREMENTS

The Review Committee was satisfied that the Company met or has attempted to meet all of the Agreement requirements.

The Ground Rules for the period 1980-85 were amended by mutual agreement only once during that period. The amendment concerned a cone collection process. Proper documentation outlining this change to the Ground Rules was available.

## MANAGEMENT OBLIGATIONS

### Introduction

A total of 7.5 person-days of the Review Committee's time was spent inspecting various regeneration treatment areas in the field. The most important observations made as a result of this field time are outlined below.

### Planting

Spruce Falls staff provided the following interesting statistics:

Current Mill harvest level = 4 million trees  
Current planting level = 6 million trees  
Planned planting level = 9 million trees

### Plantation Tending

There are apparent differences in the effectiveness of 2,4D and "Roundup" (glyphosate) herbicide chemicals in managing competing vegetation. "Roundup" was quite successful in controlling competing vegetation, particularly grass/sedge, raspberry and poplar. However, a number of upland planting projects, including the Not Satisfactorily Regenerated (NSR)



work viewed, were sprayed with 2,4D rather than "Roundup". As a result, conifer were not fully released from competing vegetation and as a result not free-to-grow.

Further, it is apparent that on some sites, herbicide release of conifer is required within one to two years after site preparation.

The Company indicates that it is aware of the need for more rapid herbicide treatment follow-up after the initial regeneration effort. It is seriously considering the increased use of "Roundup" relative to 2,4D herbicide use on its plantations. It must also be noted that the chemical Roundup has only been approved for operational use since the 1984 field season.

#### **Upland Site Treatment**

Upland sites comprise approximately 20 percent of the total Forest Management Agreement Area. These upland sites must be planted, but they appear to be presenting the greatest problem to the Company for the successful establishment of a new tree crop.

Tractor blading as a site preparation technique on these sites appears in some cases to be complicating the early crop establishment phase in two ways and potentially a third:

1. Bare root stock is used where the organic layer has been scraped off and planted in clay soil rather than in the organic layer over the clay. As a result, young planted nursery stock grows poorly. The Company is training planters to recognize proper microsites.

2. The mechanical site preparation techniques are promoting rapid re-growth and invasion of competing vegetation on certain sites.

3. The presence of poplar and other marginally desirable species between the wind rows created by site preparation could present a problem in two ways:

- i) delayed establishment of free-to-grow (FTG) status for corridor planted spruce;
- ii) if the poplar between the wind rows is killed by subsequent herbicide treatment, balsam fir will remain as a significant component of the next tree crop and possibly be impacted by spruce budworm in its normal 30 - 40 year cycle in this area.

Spruce Falls is very aware of this problem on their upland sites and is investigating steps to improve the situation. Site modification techniques using herbicides are being considered to improve the effectiveness of the possible prescribed burning of these sites.

Recommendation 1.

THE USE OF PRESCRIBED BURNING BY THE COMPANY AS A SITE PREPARATION TECHNIQUE IS ENCOURAGED AND SHOULD BE GIVEN A HIGH PRIORITY FOR THE TREATMENT OF UPLAND SITES.

### **Plantation Density**

Through the F.M.A. Ground Rules, Spruce Falls has established a plantation density of a minimum 700 trees per acre. The Company indicated their target is in the range of 800 trees per acre. The suitability of this tree planting density has been a subject of local discussion for some time. The visual impact of this planting density is particularly noticeable in the upland corridor planting being done by the Company. Spruce Falls has recently planned to conduct spacing trials in co-operation with both

the Canadian Forestry Service and the Northern Forest Development Group. The Company is commended for this initiative. In view of its large tree planting program, it is becoming increasingly important to scientifically establish the number of trees required on various forest sites to provide a fully stocked stand at rotation age, in relation to management objectives.

### **Fall Planting**

Fall season planting is a concern which should be monitored by the Company. Success is dependent on fall weather conditions. Approximately fifteen percent of the planting program is carried out in the fall. This is planned to be reduced in the next five years to about ten percent.

### **Natural Regeneration**

The Company estimated that 10,496 hectares of its Agreement area regenerated naturally during the five year period (1980-85). Area regenerated under this category was reported annually.

The Company is not using a fixed percentage of cutover to determine the natural regeneration level. Rather, aerial photo interpretation cross-checked with logging techniques and site condition, in addition to local forester experience, is the method used to determine the annual level of natural regeneration.

### **NSR Treatment**

The majority of this Company's NSR area required tending. There has been a major tending effort carried out by the Company. 35,314 hectares were aerially tended out of a total of 42,345 hectares. The Company's five year NSR obligation of 10,087 hectares was exceeded more than four

fold.

### Table 1 (Silvicultural Prescriptions)

It was determined that the Company has been adhering to the silviculture prescriptions outlined in Table 1 of the Ground Rules.

### Surveys

Stocking assessment surveys have, to date, been conducted only in the "natural regeneration" category areas prior to herbicide spraying. The Company plans a major stocking assessment survey thrust beginning in late 1985. Depleted areas not artificially treated for regeneration will be included in this stocking survey.

A number of old Ministry initiated plantations have been submitted with appropriate documentation to the local DCR for free-to-grow surveys. No Company originated project has been requested for free-to-grow surveys to date as the required growing period has not yet been completed.

### Recommendation 2.

CONTINUED MONITORING, PARTICULARLY OF THE 1980-85 PERIOD'S PRESCRIPTION RESULTS, SHOULD RECEIVE A HIGH PRIORITY IF TIMELY DECISIONS ARE TO BE MADE ABOUT THE ADEQUACY OF THESE PRESCRIPTIONS.

By following these procedures, a possible costly retreatment effort could be avoided. The prescriptions for upland tree planting, 2,4D herbicide spraying and lowland natural spruce regeneration should receive the greatest attention for early monitoring.

## Roads

The Operating Plan 1980-85 was reviewed in respect to approved road locations. This was compared with an updated Company map which showed roads constructed under the FMA to date. The Company adhered very closely to the planned development.

Field trips were conducted by truck in Ford, Stringer, Hicks and Oke Townships where roads have recently been constructed. No discrepancies were noted between mapped roads locations and those observed on the ground. An aerial field trip was conducted through Radisson, Mons, Byng, Puskuta and Ericson Townships. All roads shown on maps were found to be present in the field.

Road construction planned in 1980-81 was exceeded at the end of the five year period. Table 1 shows the planned and actual road construction activities and the maintenance program.

TABLE 1  
Summary of the amount of road originally planned and the amount actually constructed for the 1980-85 operating period. Maintenance is done annually.

---

Kilometres

Road Type	Planned	Actual
Primary	298.9	325.47
Secondary	51.5	71.10
Maintenance	x	628.61

---

Actual construction exceeded that planned due to the



introduction of third party operations onto the F.M.A. area in order to utilize available allowable cut surplus area.

When reviewing average road construction costs, the Review Committee found that claims by third party operators were higher than those claimed by the Agreement holder. Since the Ministry does not have direct contact with third party licence holders on an F.M.A., it is recommended:

Recommendation 3.

THAT THE MINISTRY CAREFULLY REVIEW ANNUAL WORK SCHEDULE SUBMISSIONS WHICH INCLUDE ROAD CONSTRUCTION COSTS UNDER APPROVED THIRD PARTY ARRANGEMENTS.

#### **MAINTENANCE OF PRODUCTIVITY**

The Forest Management Agreement obligates the Company to produce successive crops of timber on a sustained yield basis. Table 2 shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the full Allowable Cut is not depleted it will remain at the same or higher levels in subsequent terms.

TABLE 2

Comparison of the 1980-1985 allowable cut, total depletion, harvest and regeneration activities and the 1985-1990 allowable cut. (Ministry Phase-In operations included.)

FOREST MANAGEMENT AGREEMENT NO. 500600					
SPRUCE FALLS POWER AND PAPER COMPANY					
1980 to 1985					
Working Group or Forest Unit	1980-1985 Maximum Allowable Depletion	(hectares)		Regeneration Total	1985-1990 Maximum Allowable Depletion
		Total Depletion	Harvest		
Jack Pine	4665	2620	2009		4507
Spruce	71555	51522	38795		68682
Balsam Fir	3315	1250	947	N	947
Other Conifer	2830	1369	610	/	2817
Poplar, 2	16105	10244	10121	A	16007
Poplar, 3	5715	1272	1244		5890
Total	104185	68277	51248	27834	101363

## SURPLUS

The surplus situation was addressed by the Ministry during the Management Plan analysis. The Company complied with Ministry requests to distribute the surplus under Third Party Licence arrangements.

## INTEGRATED RESOURCE MANAGEMENT

Through the Forest Management Agreement, most of the Spruce Falls' roads have been opened to the public. This has provided considerably improved access to the forest for other users, but it has also caused additional problems between users. The Company and MNR work closely to mitigate concerns caused by new access (i.e., Brunswick Lake, Groundhog River).

There is good co-operation between the Company and MNR with respect to integrated resource management on the forest.

During the planned and implementation stages, concerns are

noted by MNR, primarily with road alignment and harvesting operations near water bodies. However, a suitable compromise which protects the concern, and also optimizes timber production is generally agreed upon. There is somewhat less integration with respect to wildlife habitat concerns. Most clear cuts are still larger than recommended for wildlife habitat, however it appears that clear cut size is decreasing. It was encouraging to see that the Company and MNR are working closely to bring former "excluded" lands into timber production by using modified harvesting techniques.

Although the Company does a great amount of chemical herbicide spraying compared to other areas in the province, the percentage of the land base sprayed annually is relatively small and not felt to be significant from a broad habitat perspective. Currently licenced chemicals allow for deciduous growth after several years, thus providing better mixed conifer/deciduous habitat in the medium term.

Important "Areas of Concern" were identified in the Operating Plan. Areas of Concern are geographically defined areas of value to other resource uses or users which could be affected by timber management operations, including roads, and which may require modifications to those operations. Additional areas were identified in annual plans. These are shown on Forest Resources Inventory (FRI) maps in the Company office. Maps for Byng, Puskuta, Abbott, Cromlech, and Oscar Townships were reviewed and field inspections of those townships confirmed general adherence to planned reserves. A recent report provided by MNR (Vandenberg, B. and Hubay, J., 1983. "Shoreline reservation inspection program of the Spruce Falls Power and Paper Management Unit." Kapuskasing District) made a similar conclusion.

Six recently constructed bridges were inspected in Ford, Stringer, Hicks and Oke Townships. Although no judgement

was made as to their engineering suitability, all bridges were environmentally adequate. Little disruption of original stream courses was made and shoreline vegetation was protected as much as possible. Some erosion is occurring in the recently excavated clay banks, but there appear to be no detrimental effects to the water courses.

## RECORDS

The Review Committee checked the Company's record keeping in respect to availability, comprehensiveness, reliability and quality. All of the records required under the Forest Management Agreement were available and contained a satisfactory amount of information indicating planned activity and work actually accomplished.

### Year End Reports

The Review Committee found a discrepancy between the kilometres of road reported in the 1983/84 year end report and a summary of the road invoices for the same period. There were explanations recorded for the discrepancy and adjustments made but the official record, the Annual Report, remains unamended.

### Recommendation 4.

THAT AN AMENDMENT PROCEDURE BE ESTABLISHED BETWEEN THE MINISTRY AND THE F.M.A. HOLDER WHICH WOULD GOVERN MATTERS WHERE THE OFFICIAL ACHIEVEMENT RECORDS MUST BE CHANGED FOR LEGITIMATE REASONS.

No stocking assessment or FTG survey results have been reported for the first five year period of this F.M.A. As explained in this report, a stocking survey program will only be underway later in 1985 when the fifth full growing season has been completed.

A summary of five years of Forest operations is shown in Table 3. A total of 51,248 hectares were harvested, 19,232 regenerated, 35,314 tended and 16,643 site prepared for subsequent regeneration. 424 kilometers of road were constructed and 628 maintained.

TABLE 3  
Detailed summary of Company's harvest, silvicultural activities and payments made during the 1980-1985 Operating Plan period.  
(Ministry phase-in work not included.)

FOREST MANAGEMENT AGREEMENT NO. 500600 SPRUCE FALLS POWER AND PAPER CO. GORDON COSENS FOREST		
----- HARVEST CUT: 51248 HA		
REGENERATION	HECTARES	DOLLARS (000)
TREATED		
PLANTING 1) BARERROOT	3818	1094.4
11) CONTAINER	2397	478.7
SEEDING 1) DIRECT	2521	49.9
11) WITH SITE PREPARATION	0	
TOTAL, TREATED	8736	1623.0
NATURAL		
STRIP CUTTING	0	
SEED TREE CUTTING	3723	
CLEAR CUTTING	6773	
TOTAL, NATURAL	10496	
TOTAL, REGENERATION	19232	1623.0
TENDING		
CLEANING, CHEMICAL	0	
AERIAL	35314	1044.4
OTHER	0	
TOTAL, TENDING	35314	1044.4
SITE PREPARATION		
MECHANICAL	15249	2645.0
CHEMICAL	1083	17.7
PRESCRIBED BURN	311	6.5
TOTAL, SITE PREP.	16643	2669.2
ACCESS ROAD CONSTRUCTION AND RECONSTRUCTION	KILOMETERS	
PRIMARY	353.47	
SECONDARY	71.10	
TOTAL	424.57	10968.3 (1)
MAINTENANCE	628.61	259.4
TOTAL		16564.3

\* Does not include Ministry Phase-In operations.

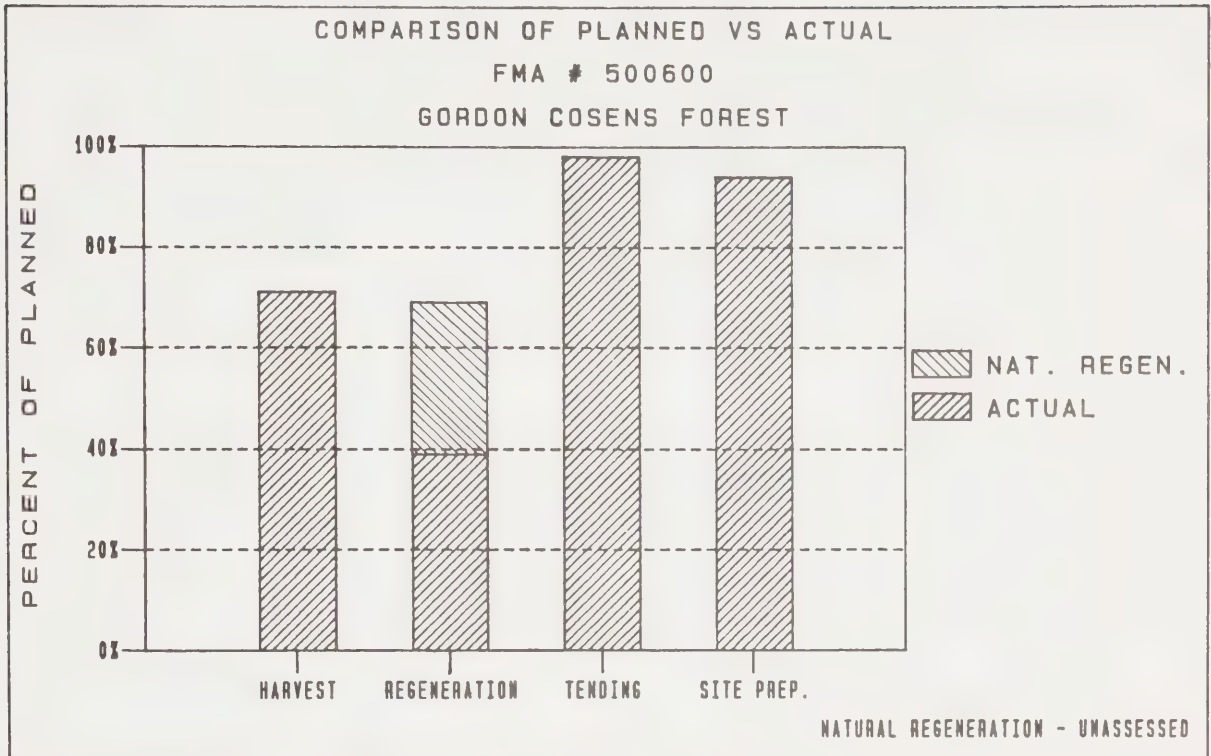
(1) Costs not separated.

A comparison of actual forest operations to those planned is illustrated in Figure 1. Seventy-two percent of the planned harvest was carried out. Regeneration, tending and site preparation were 69, 98 and 94 percent of the planned activities respectively.



FIGURE 1

Comparison of the actual levels of harvest, regeneration tending and site preparation accumulated to 1985 and expressed as a percentage of the levels originally planned in the 1980-85 Operating Plan.



The under harvest was due to a downturn in the economy and the deferral of a proposed new paper machine at the mill. The shortfall in planned regeneration was due to the reduced harvest levels and to a temporary reduction in the "group seed tree" method of natural regeneration. The Company also focast natural regeneration on selected winter harvested sites as part of their Operating Plan target. This type of regeneration covered 23,673 hectares but would not be reported until a free-to-grow assessment

### Invoicing

A random year was selected for comparing invoices submitted to the Ministry of Natural Resources for road payment against the year-end report. It was determined that the

invoiced amount for road construction and maintenance matched the year-end report. There was one discrepancy as outlined earlier, but a satisfactory explanation was provided in a documented format.

The silviculture record for two separate regeneration projects was checked against the invoiced submission to the Ministry of Natural Resources for payment and was found to be correct in both instances.

### **Silviculture Information System**

The Company is maintaining an adequate number of maps to record both its harvesting and artificial regeneration activities. In addition to the maps, individual project reports containing larger scale maps and project details are maintained in a manual file system. As part of this project report, the Company utilized the Ministry's silvicultural card system.

The Review Committee had no difficulty in obtaining the information requested from the Company during the Review Process. The present system is essentially a manual one, but the acquisition of a micro-computer will make it possible for the Company to produce summaries of its silviculture activities sorted by a number of variables.

A comparison of the five year mapped harvest cut against the five year Operating Plan allocation was difficult due to the fact that the latter was mapped at the 1" = 1 mi. scale. The former is mapped initially at the 1:15840 scale. Generally the areas appeared coincident.

### **Company Commitment**

Since signing a Forest Management Agreement in 1980, the Company has re-organized its Woodlands Department in order to accomplish its new mandate in forest management. The



## Impact Concerns

Concern over the continued use of the Japanese paper pot as a container for greenhouse seedlings. This issue has been voiced by the Company to both levels of the Northern Region field organization. Studies on the impact of the paper container on tree plantation root growth are currently underway in co-operation with the Northern Forest Development Group in Timmins.

2. A Forest Resource Inventory stand listing is currently required to accompany each five year Operating Plan submitted to the Ministry of Natural Resources. This stand listing contains the details by stand number for the five year allocation of timber. The Company indicates that the amount of use for this stand listing does not justify the expense and work involved to produce it. The matter is currently being pursued through the Ontario Forest Industry Association (O.F.I.A.) as part of their input into the preparation of the new Timber Management Planning Manual.

## CONCLUSION

The Company has satisfactorily met its obligations and is committed to the continuation of the FMA. It is recommended:

## RECOMMENDATION 5.

THAT THE FOREST MANAGEMENT AGREEMENT WITH SPRUCE FALLS POWER  
AND PAPER LTD. BE EXTENDED FOR A FURTHER TERM OF FIVE  
YEARS.

## RECOMMENDATIONS

The following is a summary of the Ministry's recommendations  
1. The renewal of the Spruce Falls Power and Paper  
company's Forest Management Agreement should be considered  
immediately. See item 5 of the report.

1. The use of Prescribed Burning by the Company as a site preparation technique is encouraged and should be given a high priority for the treatment of upland sites.
2. Continued monitoring, particularly of the 1980-85 period's silviculture prescription results, should receive a high priority if timely decisions are to be made about the adequacy of these prescriptions.
3. The Ministry should carefully review work schedule submissions which include road construction costs under approved Third Party arrangements.
4. An amendment procedure should be established between the Ministry and the F.M.A. holder which would govern matters where the official achievement record must be changed for legitimate reasons.
5. That the Forest Management Agreement with Spruce Falls power and Paper Ltd. be extended for a further term of five years.





APPENDIX A

FOREST MANAGEMENT AGREEMENT  
AREA SUMMARY



AREAS OF FOREST MANAGEMENT AGREEMENTS  
1985

AGREEMENT NO		TOTAL AREA Sq km
500200	Iroquois Falls Forest	
	- Abitibi Price Inc.	9454.0
500300	English River Forest	
	- Great Lakes Forest Products Ltd.	1004.1
500400	Upper Spanish Forest	
	- E.B.Eddy Forest Products Ltd.	1148.0
500500	Lower Spanish Forest	
	- E.B.Eddy Forest Products Ltd	8010.1
500600	Gordon Cosens Forest	
	- Spruce Falls Power and Paper Ltd.	10104.2
500700	Spruce River Forest	
	- Abitibi Price Inc.	1024.0
500800	Black River Forest	
	- QNS Paper Company Ltd.	2022.2
500900	Lake Nipigon Forest	
	- Domtar Inc.	1139.1
501000	Nagagami Forest	
	- QNS Paper Company Ltd.	1496.1
501100	Pineland Forest	
	- E.B.Eddy Forest Products Ltd.	1170.1
501200	Seine River Forest	
	- Boise Cascade Canada Ltd.	2090.0
501300	Manitou Forest	
	- Boise Cascade Canada Ltd.	2346.0
501400	Romeo Malette Forest	
	- Waferboard Corporation Ltd.	2394.3
501500	White River Forest	
	- Domtar Inc.	3151.3
501600	Cochrane Forest	
	- QNS Paper Company Ltd.	491.2
501700	Gardiner Forest	
	- QNS Paper Company Ltd.	1056.4
501800	Timmins Forest	
	- QNS Paper Company Ltd.	1894.0
501900	East Patricia Forest	
	- Boise Cascade Canada Ltd.	3237.0
502000	Lake of the Woods Forest	
	- Boise Cascade Canada Ltd.	3274.0
502100	Pakwash Forest	
	- Boise Cascade Canada Ltd.	3977.1
502200	Magpie Forest	
	- Dubreuil Brother Ltd.	3946.0
502300	Trout Lake	
	- Great Lakes Forest Products Ltd.	9188.0
502400	Dog River - Matawin Forest	
	- Great Lakes Forest Products Ltd.	8133.0
502500	Brightsand Forest	
	- Great Lakes Forest Products Ltd.	4365.1
502600	Nakina Forest	
	- Kimberly-Clark of Canada Ltd.	9058.0
502700	Longlac Forest	
	- Kimberly-Clark of Canada Ltd.	10006.3

Total

145357.1







3468  
(2 k P.R., 85 11 27)  
ISBN 0-7729-0985-7

CA20N  
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Government  
Publication

# Forest Management Agreements

Second Five-Year  
Review  
1981 - 1986



Ontario

Ministry of  
Natural  
Resources

Hon. Vincent G. Kerrio  
Minister

Mary Mogford  
Deputy Minister



# **Forest Management Agreements**

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1981-1986**

**April, 1987**



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Printed in Ontario, Canada

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## INTRODUCTION

Forest Management Agreements (FMAs) came into being in Ontario through an amendment to the Crown Timber Act in 1979. The Act as amended provided that the Minister of Natural Resources, subject to the approval of the Lieutenant-Governor-in-Council, could enter into Forest Management Agreements with private sector companies.

The FMAs, which cover a specific section of Crown land, replace existing licensing arrangements with an Agreement which requires the companies to manage the forests in the FMA area on a sustained-yield basis. In addition to harvesting, the FMA holder is responsible for all planning, regeneration and other silvicultural activities necessary for proper forest management, including the construction of access roads.

The Ministry of Natural Resources provides certain funding, and must approve the required management documents submitted by the companies. The Agreements are for 20 years, but Section 15 provides that every five years, the Minister must evaluate how the company has carried out its obligations under the Agreement and the associated management documents. If satisfactory, the FMA is renewed for another five years. This is called an "evergreen" arrangement.

In 1985, the Minister released the first five-year reviews of the first five FMAs in the province. A report on the relationship between harvest and growth, including regeneration, of timber for the five FMA areas was tabled in the Ontario Legislature, as required by legislation. All five FMAs were renewed for another five-year term.

As of November, 1986, there were 28 FMAs in the province, covering a total of 162,689 square kilometres. This is 63 per cent of the 257,244 square kilometres of licensed forest in the province. The location of these Agreements is shown in Figure 1.

In 1986, the five-year reviews on three more FMAs have been conducted and are the subject of this year's report.

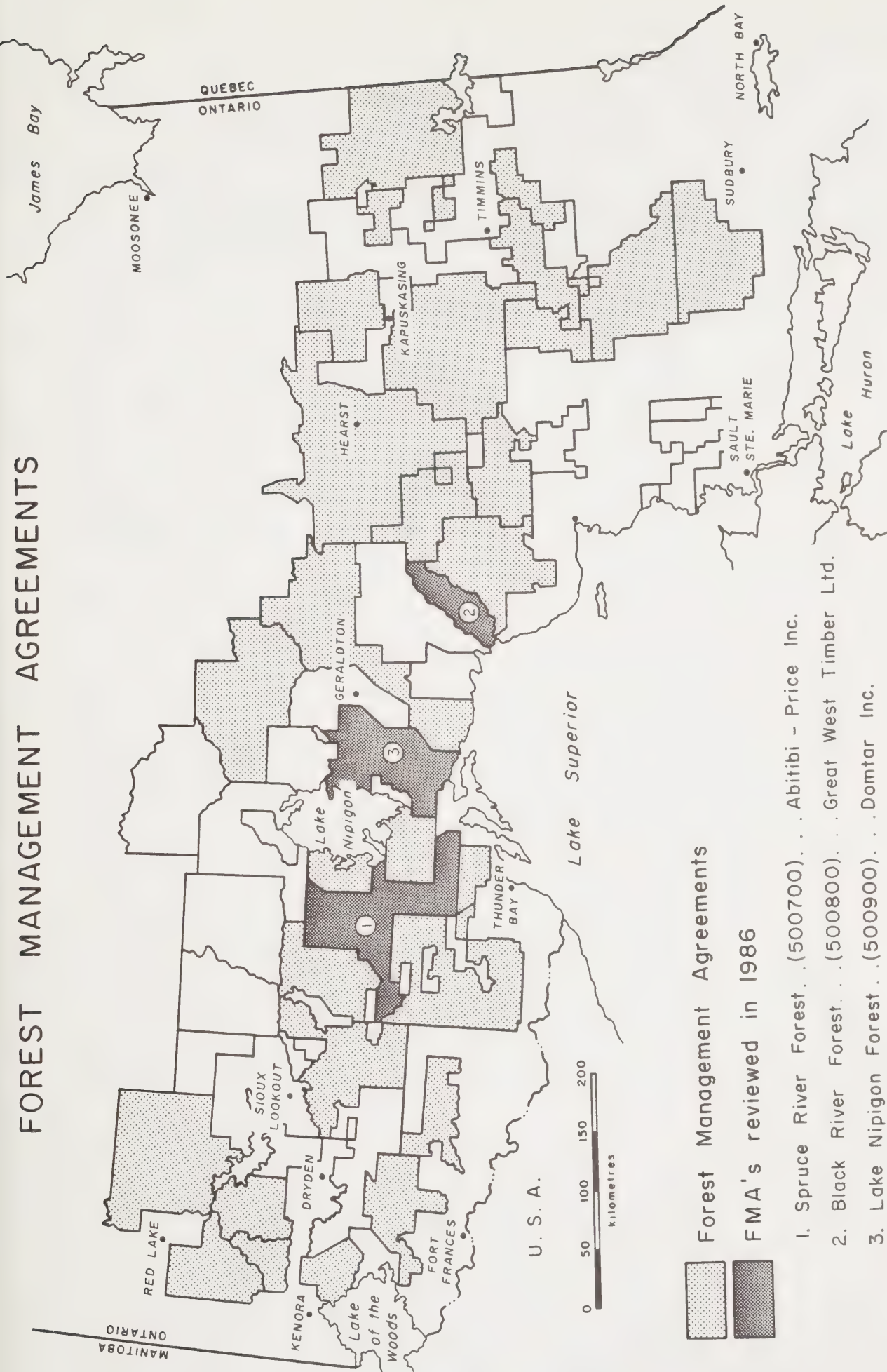
The Agreements are:

1. Abitibi-Price Inc. Spruce River Forest FMA #500700
2. Great West Timber Black River Forest FMA #500800
3. Domtar Forest Products Lake Nipigon Forest FMA  
#500900

This report summarizes the various forest operations carried out by the three companies and presents the recommendations of the individual committees which conducted the reviews. The role of the committees was to assess the commitment of the companies to their obligations as identified in the Agreements.



# FOREST MANAGEMENT AGREEMENTS



**Figure 1**

The geographic location of the three FMAs reviewed and other Agreement areas in the province.

The obligations are:

- a) submission dates for management and operating plans, annual work schedules and reports are to be established and met;
- b) harvest: may not exceed the Maximum Allowable Depletion (the annual allowable cut) and companies may be liable for damages following the fifth year if their planned requirements are not harvested;
- c) obligations for treatment of Not Satisfactorily Regenerated (NSR) lands are to be met;
- d) compliance with ground rules which indicate the silvicultural treatments on a site-specific basis;
- e) road construction.

The review committees were comprised of three members of ministry staff from outside the region being reviewed. The committees assessed the commitment of the companies to their FMA obligations, reviewed written records and conducted field inspections to assess company performance.

Activities on the FMA areas during the five-year periods prior to and after the agreements were signed are compared in Table 1. It shows that while the actual harvest increased nine per cent, regeneration increased 29 per cent, tending increased 129 per cent and site preparation increased 138 per cent.

**Table 1**

Relationship between harvest and silviculture activities on FMAs 500700, 500800 and 500900 for a five-year period before and after entering into Agreements.

	Hectares		
	By Ministry Before FMA	By Companies and Ministry during FMA	Percentage Change
Harvest	44,537	48,761	9
Regeneration	16,600	21,480	29
Tending	6,190	14,203	129
Site Preparation	9,655	23,054	138

The Agreements have a requirement for the companies to treat Not Satisfactorily Regenerated (NSR) lands which existed at the signing of the FMA. In two instances, the obligations were substantially exceeded. (Table 2) In the third case, the Lake Nipigon Forest, the treatment of NSR lands was postponed pending the results of the 1984 re-survey (see Lake Nipigon review report). The company and the ministry have now re-established the proper level of NSR lands requiring treatment.

**Table 2**

Not Satisfactorily Regenerated (NSR) obligations and treatment for three FMA areas for 1981-86.

<b>Company and Forest Name</b>	<b>Hectares</b>	
	<b>NSR Obligation to Date</b>	<b>NSR Treated</b>
Abitibi-Price Inc. Spruce River Forest FMA 500700	4,569	7,048
Great West Timber Ltd. Black River Forest FMA 500800	705	2,700
Domtar Inc. Lake Nipigon Forest FMA 500900	7,142 (original) 1,256 (new)	3,661

The committees also reviewed company concerns about the FMA arrangements and made a number of recommendations to address issues specific to each FMA.

In the case of the Abitibi-Price Inc. Spruce River Forest FMA and the Domtar Forest Products Lake Nipigon Forest FMA, the review committees recommended that the Agreements be extended for another five-year term.

In the case of the Great West Timber Black River Forest FMA, the company recently purchased the capital improvements on the area and took over the licence from another company. The committee recommended that renewal of the FMA be delayed until completion of an approved five-year Operating Plan and the company satisfying the ministry that it is in complete control of all planning activity for the Black River Forest.





**Five Year Review**

**Abitibi-Price Inc.  
Spruce River Forest  
Agreement 500700  
1981-1986**



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## I INTRODUCTION

In accordance with Section 15 of Forest Management Agreement #500700 between the Minister of Natural Resources and Abitibi-Price Inc., a review committee was appointed to determine whether or not the company had met its obligations satisfactorily under the terms of the management documents.

The committee was composed of:

Mr. David Wray, Regional Forester, Northwest Region, Kenora;  
Mr. Lang Chamberlin, Acting Outdoor Recreation Coordinator,  
Northern Region, Cochrane;  
Mr. Ron Christie, Regional Director, Algonquin Region,  
Huntsville (Chairman).

## II COMPANY OBLIGATIONS

### 1. Planning

The Spruce River Forest, Forest Management Agreement (FMA) #500700 was signed on December 15, 1981 with Abitibi-Price Inc. Several of the Agreement's conditions pertained to the company's planning responsibilities:

- o The company was required to prepare a Management Plan within 12 months. This deadline was met.



- o The company's initial draft of its Operating Plan was submitted to MNR on May 21, 1982.
- o Annual Plans are required to be consistent with the existing Operating Plan. The 1983-84 Annual Plan and location map was submitted by the company with only allocated stands indicated. No withdrawals or deferments were mapped.
- o Due to inconsistencies between the company's Operating Plan map and that of MNR, some stands were allocated that should have been deferments and incorrect deferments were indicated.
- o The company requested major amendments immediately prior to submission of at least two Annual Plans, 1984-85 and 1985-86. These amendments were caused by the unforeseen closure of Northern Wood Preservers' sawmill, the clean up of NSR areas and major harvesting reallocations to accommodate budworm damaged timber.

The company has assigned the FMA management, operating and annual planning responsibilities to one Management Forester as a portion of his duties. He is also responsible for company chemical site preparation and tending, and one-half of the planting programs.

The facts indicate that, initially, the company's commitment to the planning aspect of FMA management was limited.

However, the company planning process is improving and has many positive aspects to indicate increasing company commitment:

- o The company was already involved in forest management through a 1976 company policy to practise sustained yield on its freehold blocks (15,000 hectares treated and planted in 1986).
- o The company has assigned planning responsibilities as portions of the duties of two Management Foresters, one responsible for management, operating and annual planning, the other for field planning. In addition, the company employs approximately 15 graduate foresters in the field as line cut supervisors, and all field staff are involved in plan input and implementation.
- o Management, operating and annual planning are tied into the company's budgeting process, especially at the Annual Plan level.
- o Annual Plans are reviewed and approved by company management prior to submission to MNR.

## 2. Harvesting

For the first five years of the agreement, the calculated Maximum Allowable Depletion (MAD) was 55,655 hectares. The forecasted demand was 46,660, resulting in a declared surplus of 8,995 hectares. The harvest cut for this period was 35,474 hectares, which represents an undercut of 11,186 hectares or 24 per cent, as shown in Table 1.

**Table 1**

Comparison of the Maximum Allowable Depletion (MAD), forecasted harvest from Operating Plan and actual harvest levels for the period 1981-86 on the Spruce River Forest.

Working Group	Hectares		
	MAD	Forecasted Harvest	Actual Harvest
SP1	12,650	12,650	10,914
SP2	7,860	7,860	4,295
BF2	5,490	2,640	1,501
PJ1	5,160	4,125	2,912
PJ2	7,805	6,245	3,632
PO2	9,175	8,120	7,868
BW2	7,515	5,020	4,352
Total	55,655	46,660	35,474

The company attributed this undercut to a significant downturn in markets which resulted in a cutback of three mills from a seven to a six-day week. In addition, the company continued the purchase wood program although proportionally decreased also.

### 3. Access Roads

The Company completed construction of 89 per cent of the FMA-funded primary access roads and 68 per cent of the FMA-funded secondary roads which were planned in the five-year operating plan.

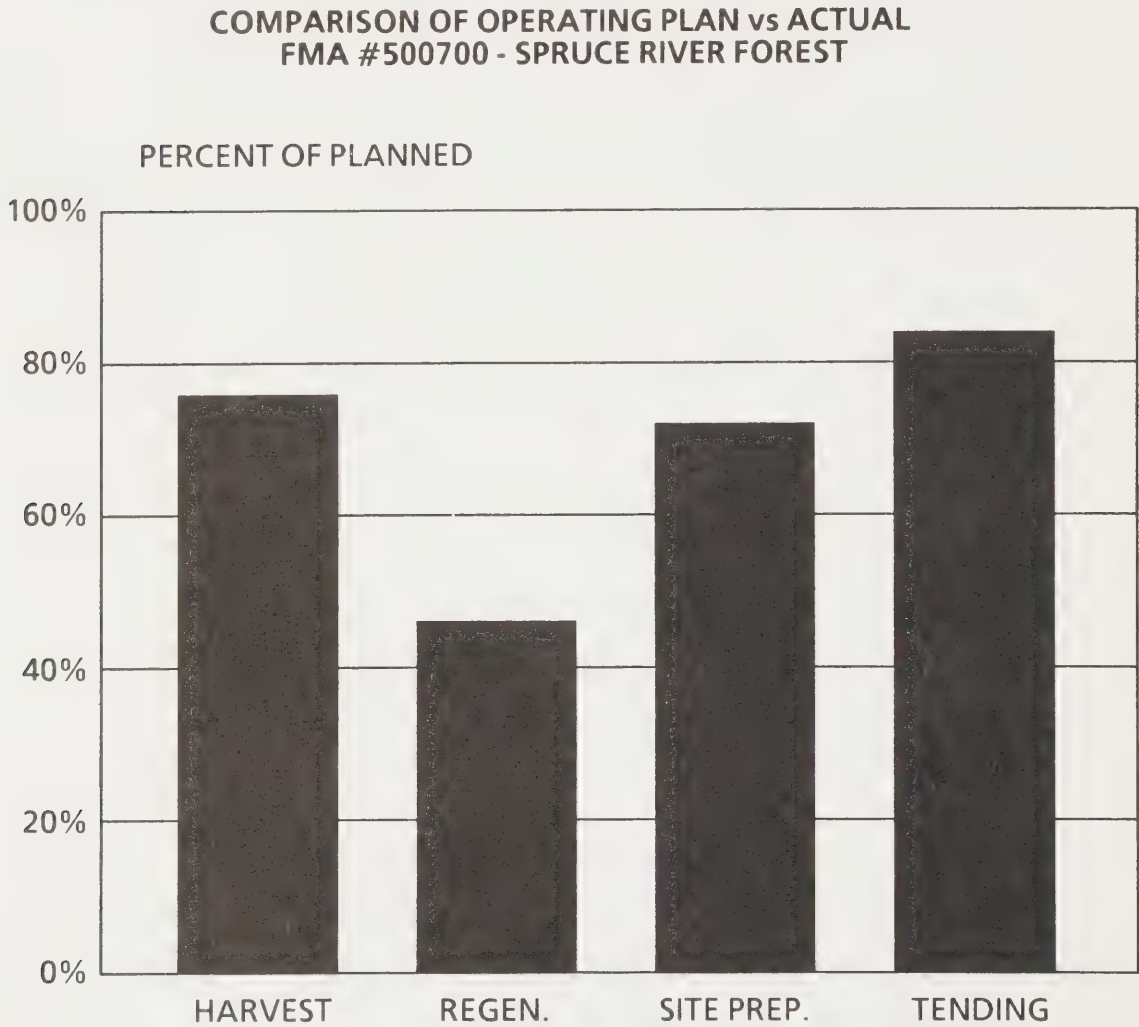
This compares with completion of 65 per cent of the primary and 104 per cent of the secondary roads planned in the sum of the five Annual Plans for the period under review. The bulk of the roads constructed were secondary access roads; the total length of roads constructed amounted to 498 kilometres, compared to a total of 502 kilometres planned in the annual plans as amended.

The shortfall in construction (in comparison to the five-year Operating Plan) results from MNR's approval of only 68 per cent of the Operating Plan's proposals. In addition, during the first two years of the plan, operations were cut back due to the recession.

An examination of the road locations proposed in the five-year Operating Plan and those proposed in the Annual Plans showed variances. For the most part, these variances were minor and resulted from the Operating Plan's use of airphotos without ground checking in the location of roads. Additional roads were constructed as a result of plan amendments due to changes necessitated by budworm salvage operations.

**Figure 1**

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1986 and expressed as a percentage of the levels originally planned in the 1981-86 Operating Plan.





An examination of road location contained in the approved Annual Plans and amendments to the plans, with the locations of actual construction, showed no significant variances. This examination included both primary and secondary roads that were FMA-funded and those constructed at company expense.

#### 4. Silviculture

The review team was particularly impressed with the manner in which the company is undertaking its obligations with respect to silviculture (Figure 1).

The company has exceeded its commitments for regeneration and tending on Not Satisfactorily Regenerated (NSR) lands, with only site preparation falling short of the commitment, primarily due to the fact that not all areas encountered actually required this treatment. On recent cutover, however, the company has carried out 41 per cent of the regeneration commitment and 47 per cent of the tending commitment. A main reason for the shortfall in regeneration was the unavailability of planting stock due to large losses in 1985. The company had, however, reduced its demand for stock in 1985 from 8.326 million to 4.7 million. This was done because the company was finding that all current site preparable cutover was being planted or seeded and no further planting stock could be accommodated.



The company is concerned that stock allocations for 1985, 1986 and 1987 are significantly lower than its demand.

The field trips showed dramatically that the company is site preparing all treatable areas within the cutovers, ensuring good planting and has the tending program (aerial herbicide application) well in hand.

The professionalism of company staff in dealing with the silvicultural program was quite evident. A detailed summary of the company's forest operations and ministry payments is presented in Table 2.

#### 5. Not Satisfactorily Regenerated (NSR) Lands

The company participated in the original NSR survey and felt, at the outset of the initial five-year period, that there would be little difficulty in meeting its NSR obligations.

The company's commitment to reforest NSR lands, based on the initial NSR survey was 4,569 hectares for the five-year period. The Operating Plan proposed the treatment of 7,406 hectares for regeneration and tending, while the five Annual Plans proposed a total of 6,536 hectares.

TABLE 2

Detailed summary of the company's forest operations and ministry payments for 1981-86 (ministry phase-in not included).

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT		500700	SPRUCE RIVER FOREST ABITIBI-PRICE INC.
FOR THE FIVE YEAR PERIOD 1981-1986			
ACTIVITY	HECTARES	DOLLARS	
NATURAL REGENERATION TOTAL	175	0	
ARTIFICIAL REGENERATION			
PLANTING BAREROOT	0		
PLANTING CONTAINER	6,759		
SEEDING DIRECT	258		
SEEDING WITH SITE PREP	238		
TOTAL ARTIFICIAL	7,255	1,682,872	
TOTAL REGENERATION	7,430	1,682,872	
TENDING			
CHEMICAL CLEANING/AERIAL	6,648		
CHEMICAL CLEANING/GROUND	0		
OTHER TENDING	0		
TOTAL TENDING	6648	516,687	
SITE PREPARATION			
MECHANICAL	10,711		
CHEMICAL	1,717		
PRESCRIBED BURN	0		
TOTAL SITE PREPARATION	12,428	2,245,708	
OTHER			
SEED/CONE COLLECTION	0	0	
PROTECTION	0	0	
TOTAL SILVICULTURAL COSTS		4,445,267	
ROAD CONSTRUCTION	KILOMETRES	DOLLARS	
PRIMARY	27.56	1,201,895	
SECONDARY	474.23	8,389,684	
TOTAL CONSTRUCTION	501.79	9,591,579	
ROAD MAINTENANCE TOTAL	1,101.53	467,633	
TOTAL ROAD COSTS		10,059,212	
TOTAL EXPENDITURES		14,504,479	

The actual NSR area treated during the period was well in excess of the commitment, 7,048 hectares, of which 72 per cent was tending. The company is concerned about its ability to continue to meet the original commitment, due to limitations of the original survey and to the resultant lower availability of suitable treatment area.

Prior to treatment, the company verifies its NSR lands using a combination of infrared photography, area stratification, initial visual checking and, finally, on questionable areas, stocking assessments as previously described.

The company has not confined itself to the original Class 2 and 3 NSRs and has now resurveyed a total of 46,561 hectares (58 per cent of the original NSR survey area). The surveys have convinced the company that the original NSRs are in far better condition than originally reckoned and that less area is available for treatment than was originally calculated.

A comparison of the original survey with the results of the Company's resurvey is contained in **Table 3**.

**Table 3**

Results of Re-surveys of the NSR Lands by Abitibi-Price Inc.

Original NSR Survey		NSR Resurvey Results									
		Class						Unsurveyed	Uncut	Unproductive	Exclusions
Class	Area	1	2	3	4	5	6				
1	37,120	-	-	-	-	-	-	37,120	-	-	-
2	3,333	562	1,460	286		50	120	598	181	7	69
3	14,943	1,202	2,244	2,450	71	535	1,972	4,261	2,093	74	41
4	969	221	48	17	-	38	8	514	122	1	-
5	2,584	31	25	41	-	59	97	2,043	277	1	10
6	25,165	813	4,179	4,497	3	325	1,491	13,249	147	10	1
Total	84,114	2,829	7,956	7,291	74	1,007	4,138	57,785	2,829	93	121

In 1985, MNR commissioned KBM Forestry Consultants Inc. to carry out a review of silvicultural programs and planting stock requirements of the Spruce River FMA which, among other things, evaluated the company's position on the availability of NSR lands for treatment. Despite a criticism of the company's assessment methods, the KBM report supported the view that much (up to 40 per cent) of the original Class 3 and 4 NSR lands were adequately stocked to spruce or pine.

## 6. Maintenance of Productivity

The Forest Management Agreement obligates the Company to produce successive crops of timber on a sustained yield basis. Table 4 shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Maximum Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the full Allowable Depletion is not depleted it will remain at the same or higher levels in subsequent terms.

**Table 4**

Comparison of the 1981-1986 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1986-1991 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

FMA 500700 ABITIBI-PRICE INC. 1981 TO 1986 Hectares					
Working Group/or Forest Unit	1981-1986 Maximum Allowable Depletion	Total Depletion	Harvest Cut*	Regeneration Total	1986-1991 Maximum Allowable Depletion
Spruce 1	12,650	10,914	10,914	n/a	11,744
Spruce 2	7,860	4,295	4,295	n/a	7,479
Balsam Fir	5,490	1,501	1,501	n/a	5,320
Jack Pine 1	5,160	2,912	2,912	n/a	3,534
Jack Pine 2	7,805	3,632	3,632	n/a	8,010
Poplar	9,175	7,868	7,868	n/a	8,332
White Birch	7,515	4,352	4,352	n/a	7,172
Total	55,655	35,475	35,475	11,216	51,591

\*As reported in 1986/91 Operating Plan.



### III SURPLUS

This topic has been introduced previously in the discussion of the company obligations regarding harvesting. Since the company undercut the forecast by only 24 per cent during the first five years, it would appear that they made a reasonable declaration of surplus at the outset. The company is confident that the declaration of surplus is accurate for the second five years, and that the harvest cut will be more in line with the forecasted demand.

### IV INTEGRATED RESOURCE MANAGEMENT

In recognition that there will be areas of forest lands which, because of their location or nature, should be managed by the ministry for uses other than sustained yield forest production, the company agreed in the ground rules to allow areas to be withdrawn from the FMA (up to five per cent of MAD). This is in addition to the five per cent area identified in all Agreement documents. The company also agreed to co-operate in implementing numerous withdrawals and deferments introduced by MNR at the Annual Plan level.

However, the company displayed a lack of commitment to the principles of Integrated Resource Management during the early part of the initial five-year operating period:



o There was little two-way communication with MNR about, or understanding of, the management principles and objectives of withdrawals and deferments. This was exemplified by company expectations of MNR to identify all "Areas of Concern" and appropriate prescriptions. However, such prescriptions were generally implemented with little or no question. In addition, it should be pointed out that MNR's terminology regarding withdrawals, deferments, AOCs, etc., changed during this period of the FMA. As a result, there was some confusion on the part of the company and MNR which needed to be clarified. This has been done.

o As previously mentioned in the Planning section, the company did not identify any withdrawals or deferments on the 1983-84 Annual Plan and allocation map submitted to MNR. This resulted in several deferments, previously identified in the Operating Plan, being approved by MNR and harvested by the company.

o In many cases, the company elected to either increase the area of no-cut prescriptions and/or not harvest the cut portions of 50 per cent cut/leave deferments.

However, increasing company commitment to Integrated Resource Management principles has been demonstrated recently by better communication, especially entering the second five-year operating period:

- o The company responded positively to public and MNR concerns about proposed crossings of the Grew and Loganberry Rivers, important tourism waterways, by proposing the alternative of a parallel road system with no crossings.
- o There is a growing company appreciation of the value of habitat management (e.g. wildlife travel corridors) to wildlife.
- o There has been an evolution of company-MNR communication about other resource uses -- from dealing strictly with the District Crown Representative (DCR), to dealing with other MNR services with the DCR present, to dealing directly with other services regarding withdrawals and deferments and keeping the DCR informed.
- o The company is currently dealing directly, on a one-to-one basis with other resource users (e.g. trappers, tourist outfitters, etc.).
- o The company has shown a commitment to deal quickly and effectively with incursions on exclusions, withdrawals and deferments.

## V RECORDS

### 1. Harvest Cuts and Depletions

The Company bases its cutover and fire depletion maps and records on supplementary aerial photography.

Airphotos are taken in January and May to correspond to the company's fiscal year (January 1 to December 31) and to that of the MNR (April 1 to March 31).

Depletions reported in the Annual Report correspond to the net area cut (or burned), but do not apparently include bypass and no-cut reserves. Depletion maps at a scale of 1:15,840 accompany the Annual Reports, with a duplicate set kept on file in the company offices.

These depleted areas are, in addition, recorded on Forest Resources Inventory (FRI) chronoflex maps, also stored at the company's Thunder Bay office. The depletion records appeared, upon examination, to correspond to the depletion maps.

### 2. Silvicultural Records

The company keeps duplicate sets of silvicultural records, one based on MNR's Silvicultural Information System (SIS) and one based on the company's system (also called SIS). The company system is employed throughout its Canadian divisions.

The company's use of the MNR system is done at the request of the District Crown Representative. SIS cards are completed for all site preparation, planting, seeding and tending projects. Two copies are produced: one is submitted to MNR at completion of the annual work program in February, the other is held in company files. Maps at a scale of 1:15,840 are appended to each copy. These records are also stored on the company's IBM XT micro-computer for backup storage and summary generation.

Apart from this, the company has its own record-keeping system. The information held includes the base map, project number, year, area, treatment type, cost and assessment results. The data are stored on a mainframe computer at the company's Toronto head office and used for report generation. Master maps (scale 1:15,840) are maintained up to date at the company's Thunder Bay office.

All the records were easily accessible and of excellent quality. Since these records are available to MNR, the review team sees no reason to continue to require the company to manually complete MNR's SIS cards.

### 3. Regeneration Surveys

The company's obligations to carry out regeneration stocking assessments will begin in the fifth year following regeneration treatment. The first of these will not begin until 1987. Nonetheless, the company carries out survival and stocking assessments for the purpose of pre-treatment confirmation of the class of NSR lands and early determination of regeneration failures. The present assessment methods have evolved over the past five years.

#### (a) Survival Assessments

Survival Assessments are based on clusters of five temporary circular sub-plots, located on airphotos from an identifiable ground fixture. The intensity of the sample is one 50-square-metre plot per five hectares of treatment. At each sub-plot, all trees are located, staked, numbered and assessed with regard to planting quality (first-year only) condition and, in the fifth year, increment and total height. Plots are re-visited in the first, second and fifth years following planting.

(b) Stocking Assessments

Stocking Assessments are based on randomly located four-square-metre plots located in a linear fashion, two chains apart. At each plot, the stocking of acceptable conifers is noted; at every third plot, there is a tree count by species, a note of the dominant coniferous species and its height and increment. Notes are also made on the degree of competition from other species.

(c) Depletion Recording

During the first five years, only harvest depletions were recorded (with the exception of a small area of reserve depletion in 1985). In some cases, areas have been allocated in the Operating Plan as parts of large blocks. These areas have subsequently been left uncut due to inoperability (e.g. age or terrain), but no classification of the area has been made.

They are simply left as an uncut portion of the allocation rather than classified as bypass, untreatable, etc. Since allocated areas which are left uncut should take a high priority for allocation in the next five years, this recording practice could foreseeably cause problems if the company does not continue its current practice of scheduling these areas for third party operators.



#### 4. Financial Records

The review team did not examine the company's financial records in detail as this is done operationally at the time of invoice submission. Several invoices that the company submitted for payment were checked against the work that the company stated that it had completed as part of the review team's selection of field sites for inspection. There were no discrepancies. The DCR also stated that he had no concerns about the company's accounts.

#### VI COMPANY COMMITMENT

The company has a very definite commitment to managing the Forest Management Agreement. Company staff commitment to the FMA includes two Management Foresters. One is responsible for management planning, the herbicide program and half the planting program; the other is responsible for field planning, mechanical site preparation and half the planting program. There is an FMA road construction foreman and 30 to 35 contract supervisors (four to six-months-plus).

The company has set the FMA up as a separate location (cost centre) in their bookkeeping system.

A study was recently completed, at considerable expense to the company, to determine the status of NSR classifications on FRI maps.

The Management Forester responsible for site preparation conducts an extensive field planning exercise and on-site inspections to determine the most effective site preparation methods and layout. In recent cuts, every hectare that can be site prepared, is site prepared.

The company is experimenting with various site preparation techniques, including different types of mechanical site preparation equipment, chemicals and chemical application equipment, and combinations of both.

The company has taken quality control very seriously by establishing a daily reporting procedure for all site preparation, planting and tending projects, with a company quality assessor right on the job site.

The company has tried to ensure an understanding of all aspects of Timber Management by its staff. There are six-month job exchanges for forestry and harvesting staff. Camp foremen provide input on silvicultural work planning; they direct implementation by cutters if the operation is within a reasonable distance of the camp.

## VII COMPANY CONCERNS

The staff of the company expressed some concerns relating to the Agreement and the company's interaction with MNR. They are as follows:

### 1. Planting Stock

#### Quality:

The company insists on using overwintered container stock only, and is under the impression that MNR will provide this type of stock. MNR appears to be trying to have the tree-growing contractors produce two crops per year. The company does not wish to plant this type of stock. The company has concluded that MNR minimum standards for tree quality for the growers have, in fact, become the objective. In this company's view, these standards are too low.

In addition, the company believes that MNR ought to have more expertise available to monitor and assist the contract tree growers in order that losses can be minimized and the quality maximized.

The company wishes to take on the responsibility for supplying its own nursery stock, with MNR paying the normal production costs and the company entering into its own contracts with private growers. The company feels it would have more control over stock quality in that way. Currently, this is a factor which the company feels has significant impact on the success of the regeneration program, but over which it has no control.

Quantity:

After the initial shake-down period in the tree planting component of the Agreement, the company has adjusted its figures to indicate what it considers to be a reasonable level of artificial regeneration effort. This level is set at 4.7 million trees for the next five years.

The company has been informed that it will receive 3.8 million trees in 1987 as a result of the ministry placing a ceiling on the total number of trees that will be produced in Ontario. The company is concerned that if its objective of planting 4.7 million trees is not reached, a backlog of lands will develop. The company does not wish to see this happen because it has made significant progress in eliminating any existing NSR lands.

## 2. NSR Lands

The company was concerned about the stocking rates applied to the different categories of NSR land. This has been negotiated successfully with MNR for the next Operating Plan period.

In addition, the definition of "free to grow" is not clear and is currently being discussed with MNR. This issue should be agreed upon as soon as possible.

## 3. Annual Work Plan Approval and FMA Allocation from MNR

The company is concerned that MNR is very slow in approving the company's annual work plan because of very minor adjustments that the ministry insists ought to be included.

The company stated that notice of the allocation of funds was received on June 13, 1986. This is far too late for the company to make its plans and hire its contractors. In fact, by that date, considerable money had already been spent.

The company also finds it very difficult to make any long-term plans (longer than one year) because of a lack of funding continuity by MNR.

#### 4. Transfer of Technology and Technology Development

The company looks upon itself as the land manager in the FMA area. In order to be effective in planning and the development of various silvicultural prescriptions, the company believes that its staff must have a very close working relationship with MNR staff, especially forestry and wildlife staff. The review team believes that this type of relationship has developed and is working well.

However, the company believes that MNR staff could benefit from a more structured form of information exchange (e.g. workshop or seminar). Similarly, the company believes that its staff could benefit from such an exchange.

#### 5. Silvicultural Treatments

The company perceives a strong feeling from MNR that the company has to restrict itself rigidly to treating each and every hectare as per Table 1 of the agreement. Every hectare is not treatable. The company has proposed that MNR examine treated and non-treated areas from 1984, and advise the company if the ministry agrees with the decision to treat or not.



## 6. Forest Protection

The company questions MNR's capability to provide adequate protection of existing and especially regenerating forests against insects and disease. Concern was expressed that the best, legally available tools, were not being used (chemical spraying for spruce budworm).

## VIII RECOMMENDATIONS

The Review Committee recommends:

1. That the Abitibi-Price Inc. Spruce River Forest FMA (#500700) be extended for a further five-year period.
2. That the ministry communicate and discuss with the company the principles of Integrated Resource Management in order that the staff of the company develop a better understanding of, and an increased commitment to, those principles.
3. That the ministry withdraw the requirement that the company complete MNR SIS cards.
4. That the company and the ministry work towards properly classifying those uncut portions of the allocations as bypass, untreatable, etc., in order to prevent problems in the future.

5. That the ministry review its tree contracting program with the objective of improving the quality and ensuring the quantity of the stock produced.

Such a review should include:

- o an examination of the current stock standards;
- o the issue of producing two crops per year as compared to one overwintered crop;
- o the need to provide more technical expertise to contract tree growers and additional monitoring during the growing season;
- o a consideration of the feasibility of giving the company responsibility for supplying its own nursery stock, with the ministry paying the normal production costs and the company entering into its own contracts with private growers.

6. That the company and the ministry amend Schedule "B" to recognize those lands which have changed NSR class since the original survey.

7. That the company and the ministry negotiate and develop an agreement on the definition of free-to-grow.
8. That the ministry develop a more effective process for review and approval of company Annual Plans.
9. That the ministry notify the company of the company's allocation of FMA funds in a more timely manner.
10. That the ministry examine, in co-operation with the companies, the possibility of establishing a more structured forum (workshops, seminars) for the exchange of information between companies and the ministry. Such a forum would be of benefit to both company and ministry staff.
11. That the company and ministry examine treated and non-treated areas in the FMA area and determine whether to treat or not to treat.
12. That the ministry continue to assess the most effective and efficient methods of carrying out forest pest control.

## IX OBSERVATIONS

1. The new Timber Management Planning process involving the Class Environmental Assessment for Timber and the Timber Management Planning Manual will require a firm commitment by the company of staff and time. In addition, in this same process, the company will be required to propose suitable prescriptions consistent with the principles contained in MNR guidelines, for areas of concern identified by MNR.

This will require a continuation and improvement in communications with MNR staff in order to develop an understanding of the management principles and objectives associated with other resource uses.

2. The company has an excellent record-keeping system and is to be complimented for the quality of its records.
3. The first few years of any new undertaking, such as an FMA, is a time for learning about and adapting to, the new system. The company has done very well on both counts and this process is continuing. The Review Committee believes that the company is firmly committed to doing the best work possible on its FMA area.



# **Five Year Review**

**Great West Timber Ltd.  
Black River Forest  
Agreement 500800  
1981-1986**





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## I INTRODUCTION

The Ministry of Natural Resources signed a Forest Management Agreement (FMA) with the Ontario Paper Company, a division of the Quebec North Shore Paper Company Ltd., for the Black River Forest area. This FMA area is referred to as Agreement #500800.

Towards the end of the first five-year period of the FMA, the capital improvements on the area were purchased by Great West Timber and the licence transferred. With this transfer, Great West assumed full responsibility for the FMA from its inception.

### 1. Review Committee

The Review Committee for the Black River Forest FMA of Great West Timber, was comprised of:

Mr. J.R. Oatway, Regional Director, Eastern Region,  
(Chairman);

Mr. D. Scott, Forest Management Supervisor, Ignace  
District;

Mr. P. Smith, Regional Biologist, Algonquin Region.

The Committee had difficulty with some aspects of the review, due to the licensee changes on the FMA area.

## 2. Review Problems

As outlined in the introduction, Ontario Paper Company was the initial FMA holder, and held this position for approximately four years and 11 months, when the capital improvements on the area were sold to Great West Timber and the licence transferred.

With the transfer, Great West Timber assumed full responsibility for the FMA from its inception. Great West engaged a new company, North West Timber Ltd., to assume some of the responsibilities of the Black River licence area. The controlling interest of Great West was purchased by Buchanan Forest Products in July of 1986. It is important to explain the foregoing, in order to illustrate the complexities faced by the review team in this audit.

The audit team met at Great West offices in Thunder Bay, with principals of Buchanan Forest Products, Great West Timber, and North West Timber.

Since the controlling interest of Great West had only recently been assumed by Buchanan Forest Products, the full impact of that purchase was still being felt. There was no one in attendance who had an intimate knowledge of this FMA throughout the first five-year period.

Further discussions and site inspections were conducted from the North West Timber offices in Manitouwadge.

## II TASK OF REVIEW COMMITTEE

The committee attempted to review the company obligations through the following aspects of the FMA:

1. Planning -- Management, Operating and Annual Plans.
2. Had the FMA holder taken on full responsibility for managing the Black River concession, including the commitment to integration of management and operations?
3. Did the company have in place an acceptable record keeping system?
4. Road construction.
5. Commitment to integrated resource management.

### 1. Planning -- Management, Operating and Annual Plans

#### a) Management Plan

The Management Plan was submitted on time, and outlined a Maximum Allowable Depletion (MAD) of 17,475 hectares. Of major importance in the plan is an accelerated program of primary road construction during the first decade of the agreement, not only for the purpose of cutting oldest first, but also to fully access the concession.



b) Operating Plan

The Operating Plan was submitted late, but with an approved extension, and indicated a harvest of only 6,515 hectares of the MAD.

c) Annual Plans

Late submission of plans was a problem in some years of the agreement due, in part, to lengthy review and analysis of submissions. Late submission dates were accepted by the ministry.

The Audit Team concentrated on a review of the 1984/85 and 1985/86 Annual Plans. Despite an intensive review of these Annual Plans by the Designated Crown Representative (DCR) and required revisions made by the company to take into consideration the concerns of the DCR, an excessive number of further amendments were requested by the company throughout the period of the Annual Plans. While some of these amendments were fairly minor, some required changes to operating areas, both inside and outside the five-year Operating Plan area.

It must be acknowledged that during the first five-year period of the FMA, the Ontario Paper Company was going through some serious mill conversion problems, which apparently necessitated adjusting its wood requirements on short notice.

## 2. Company Responsibility and Organization

### a) Responsibility

The review committee saw little evidence that Great West was prepared to accept full responsibility for the FMA obligations. This evaluation is based on the letter from Great West to the District Manager in Terrace Bay, which indicated in part:

"North West Timber Ltd. will be responsible to Great West Timber for all management planning activities, relating to the Forest Management Operating Plan and Annual Work Schedule. Great West Timber, as the FMA holder, will be responsible for the approval and submission of the Operating Plan and the Annual Work Schedule to the Ministry. Correspondence relating to the management planning activities or details may be sent directly to North West Timber in Manitouwadge, with copies to Great West Timber in Thunder Bay."

b) Organization

A principal intent of FMAs is the combining of harvest and silvicultural operations into an integrated program. Apparently, full integration did not occur during this five-year period, as operations staff were not involved in, nor committed to, the planning process. This is reflected in the large number of requested revisions to Annual Plans.

3. Records

A good system of record keeping is in place.

Harvest Depletion Records: One discrepancy was noted for 1981/82, where the area reported as harvest cut was, in reality, the area of depletion including bypass areas. All other years showed only actual cuts.

Silvicultural Records: The silvicultural record-keeping system was excellent.

Roads: Records are filed by road name, and include all reports and maps of each section approved for payment.

#### 4. Roads

Although there was a significant underachievement of harvest objectives, an ambitious road construction program proceeded during the initial five-year term. The accelerated road access program, as per Management Plan, effectively provides access to virtually all of the Black River Concession. At the same time, the roads direct the harvesting to the older stands first.

#### 5. Integrated Resource Management

The five-year Operating Plan contained a comprehensive appendix of "Enhanced Management Areas", outlining special terms and conditions. For these areas of concern (such as wildlife travel corridors, aquatic feeding areas and fish habitat), modified harvest cutting practices were prescribed.

Field observations by the review committee suggest a sincere effort to conform with the requirements for modified cutting and appropriate construction of stream crossings.

### III COMPANY CONCERNS

The company expressed concern about the nature of communications and the volume of "paperwork" between the company and MNR. All parties agreed that efforts are required to improve this relationship, through increased field contacts between the Crown DCR and forest management staff of the company. More on-site interaction and less adversarial written communication would be of benefit to the company and the ministry.

### IV PLANNED VS. ACTUAL

The following sections outline the planned outputs and actual accomplishments for the first five years of the FMA for harvest and silviculture operations, as shown in **Figure 1**, and road construction as shown in **Table 2**. A detailed summary of company forest operations and ministry payments for 1981-86 is presented in **Table 4**.

#### 1. Harvest

The Maximum Allowable Depletion (MAD) or allowable cut for the Black River Forest, as calculated in the Management Plan, was 17,475 hectares for the period 1981-1986. The forecast harvest from the Operating Plan was 6,515 hectares.

Actual depletion was 3,808 hectares, 22 per cent of the Management Plan MAD, or 58 per cent of the Operating Plan forecast harvest. For the conifer working groups, this rose to 35 per cent of the MAD, or 61 per cent of the Operating Plan forecast harvest.

**Table 1**

Comparison of the Maximum Allowable Depletion (MAD), forecast harvest from Operation Plan and actual harvest levels for the period 1981-86 on the Black River Forest.

Work Group	Hectares		
	MAD	Forecasted Harvest	Actual Harvest
SP2	4,605	2,680	1,698
SP3	620	400	295
BF2	3,105	2,190	865
PJ2	2,185	715	815
PO2	1,995	235	0
PO3	1,220	85	68
BW2	1,870	165	47
BW3	1,810	45	20
OC2	65	0	0
Total	17,475	6,515	3,808

The underharvest of the forecast harvest from the Operating Plan, was a result of Ontario Paper Mill problems.



## 2. Roads

The audit team did all its inspections by road, and therefore had an opportunity to travel a good portion of the FMA construction. Roads construction met the standards for primary and secondary road classes. The company now has an excellent road system almost throughout the forest (Table 2), which should make management of the area much easier for both operation and regeneration.

**Table 2**

Comparison of planned versus actual road construction from the Operating Plan.

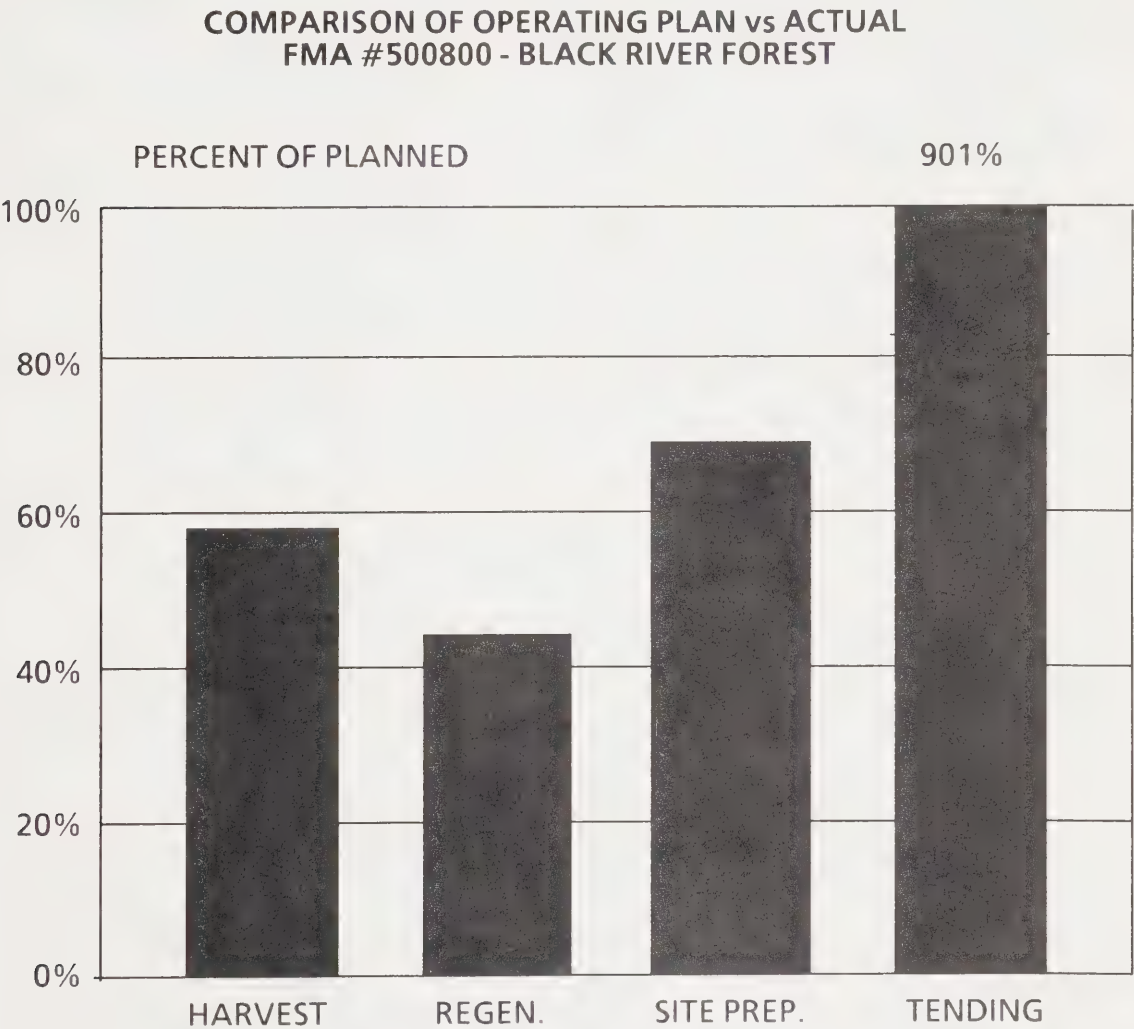
Road	Kilometres	
	Planned	Actual
Primary	189.70	142.30
Secondary	76.61	74.38
Total	266.31	216.68

## 3. Silviculture

The audit team was impressed with the dedication and enthusiasm of the two staff members responsible for the regeneration activities, both on the current cutover and NSR lands. A comparison of silvicultural accomplishments against those stated in the Operation Plan for the period 1981-86 is shown in Figure 1 and Table 3. A detailed summary of the company's forest operations and ministry payments is presented in Table 4.

Figure 1

Comparison of the actual levels of harvest, regeneration, tending and site preparation accumulated to 1986 and expressed as a percentage of the levels originally planned in the 1981-86 Operating Plan.



**Table 3**

Comparison of levels of silviculture as stated in the 1981-86 Operating Plan, Annual Plan submissions and actual accomplishments.

**HARVEST CUT - 3,808 HECTARES**

<u>Silviculture on Recent Cutover</u>	<u>Planned ha. (Op. Plan)</u>	<u>Planned ha. (Annual)</u>	<u>Actual ha.</u>
Planting (Bareroot and Container)	681	1320	1007
Seeding	183	616	363
<u>Sub-Total</u>	<u>864</u>	<u>1936</u>	<u>1370</u>
Natural	648	648	226
Total Regeneration	1512	2584	1596
Tending	0	226	226
Site Preparation	2260	2199	2086

**NSR COMMITTMENT - 705 HECTARES**

Planting (Bareroot and Container)	3321	702	705
Seeding	346	38	32
<u>Total</u> NSR Regeneration	<u>3367</u>	<u>740</u>	<u>737</u>
Tending	243	2013	1963
Site Preparation	2332	1399	1147

**TOTAL**

Regeneration	5179	2333
Tending	243	2189
Site Preparation	4592	3233

**TABLE 4**

Detailed summary of the company's forest operations and ministry payments for 1981-86 (ministry phase-in not included).

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT		500800	BLACK RIVER FOREST GREAT WEST TIMBER
FOR THE FIVE YEAR PERIOD 1981-1986			
ACTIVITY	HECTARES	DOLLARS	
NATURAL REGENERATION TOTAL	226	0	
ARTIFICIAL REGENERATION			
PLANTING BAREROOT	1,198		
PLANTING CONTAINER	514		
SEEDING DIRECT	0		
SEEDING WITH SITE PREP	395		
TOTAL ARTIFICIAL	2,107	621,596	
TOTAL REGENERATION	2,333	621,596	
TENDING			
CHEMICAL CLEANING/AERIAL	2,115		
CHEMICAL CLEANING/GROUND	74		
OTHER TENDING	0		
TOTAL TENDING	2,189	281,629	
SITE PREPARATION			
MECHANICAL	3,233		
CHEMICAL	0		
PRESCRIBED BURN	0		
TOTAL SITE PREPARATION	3,233	837,973	
OTHER			
SEED/CONE COLLECTION	0	0	
PROTECTION	0	0	
TOTAL SILVICULTURAL COSTS		1,741,198	
ROAD CONSTRUCTION	KILOMETRES	DOLLARS	
PRIMARY	142.30	4,801,063	
SECONDARY	74.38	1,386,817	
TOTAL CONSTRUCTION	216.68	6,187,880	
ROAD MAINTENANCE TOTAL	499.12	210,580	
TOTAL ROAD COSTS		6,398,460	
TOTAL EXPENDITURES		8,139,658	

#### 4. Maintenance of Productivity

The Forest Management Agreement obligates the Company to produce successive crops of timber on a sustained yield basis. Table 5 shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Maximum Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the full Allowable Depletion is not depleted it will remain at the same or higher levels in subsequent terms.

**Table 5**

Comparison of the 1981-1986 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1986-1991 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

**FMA 500700  
GREAT WEST TIMBER LIMITED  
1981 TO 1986  
Hectares**

Working Group/or Forest Unit	1981-1986 Maximum Allowable Depletion	Total Depletion	Harvest Cut*	Regeneration Total	1986-1991 Maximum Allowable Depletion
Spruce 2	4,605	1,698	1,698	n/a	4,732
Spruce 3	620	295	295	n/a	638
Balsam Fir	3,105	865	865	n/a	3,268
Jack Pine	2,185	815	815	n/a	2,255
Poplar 2	1,995	0	0	n/a	2,147
Poplar 3	1,220	68	68	n/a	1,301
White Birch 2	1870	47	47	n/a	2,032
White Birch 3	1,810	20	20	n/a	1,938
Other Conifer	65	0	0	n/a	148
<b>Total</b>	<b>17,475</b>	<b>3,809</b>	<b>3,808</b>	<b>4,100</b>	<b>18,458</b>

\*As reported in 1986/91 Operating Plan.



## V RECOMMENDATIONS

Based on the findings of the review committee, it is recommended:

1. That renewal of the FMA be delayed until completion of an approved five-year Operating Plan and the company satisfying the ministry that it is in complete control of all planning activity for the Black River Forest.
2. That an organization be put in place which emphasizes the integration of harvesting operations and silviculture. This organization should reflect the corporate commitment to the Black River Forest FMA by the company.
3. That both the company and the ministry place emphasis on maintaining a close working relationship, which encourages a co-operative approach to management, including practical application of ground rules. Both parties should promote information exchange and problem resolution through close consultation "in the field".
4. That the road construction program be closely linked to the harvest cut on an annual basis. If further roads are required, emphasis should be placed on secondary road construction, rather than additions to the primary road network.

# **Five Year Review**

**Domtar Inc.  
Lake Nipigon Forest  
Agreement 500900  
1981-1986**



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## I INTRODUCTION

In December 1979, the Crown Timber Act was amended to permit the Minister of Natural Resources, subject to the approval of the Lieutenant Governor-in-Council to enter into Forest Management Agreements (FMAs) with private-sector companies. FMAs are intended to ensure effective and efficient sustained yield forest management on specific areas of Crown land. They grant the agreement-holder the right to harvest those areas in perpetuity, provided certain stipulated commitments regarding harvesting and regeneration of the forest are fulfilled.

The FMAs are established for 20-year periods. The Minister is required to determine at the end of each term of five consecutive years whether or not the obligations of the company, as set out in the Agreement and associated management documents, have been satisfactorily met. If so, the Minister will extend the FMA for another five-year term.

The Lake Nipigon Forest Agreement was signed on March 31, 1981. The review of that Agreement was undertaken during the period of August 11-15, 1986 by the following:

Mr. E.L. Borczon, Regional Forester, Central Region,  
Richmond Hill;

Mr. J.C. Williamson, Regional Biologist, Eastern Region,  
Kemptville,;

Mr. R.A. Riley, Regional Director, Northern Region,  
Cochrane, (Chairman).



In undertaking the review, company and ministry documents were scrutinized, company and ministry staff were interviewed, and the results of forest management activities on the Lake Nipigon Forest were examined in the field. Central to the review were investigations of how well company obligations were met in the areas of planning, harvesting, record keeping and surplus timber management. The degree of company commitment to the FMA process and company concerns about that process were also examined.

## II RESULTS OF THE REVIEW

### 1. Planning

The timing of submission and approval of Management, Operating and Annual Plan submissions is set out in the Agreement. These plans describe what and how much of each management activity the company intends to undertake and where those operations will be conducted. The Agreement was not concluded until the end of the first year of the initial five-year term. Therefore, the annual plans for the initial two years of the first five-year term were effectively developed outside the terms of the agreement.

Subsequently, both the company and the ministry found it impossible to meet the Agreement submission deadlines for the Management and Operating Plans and the Annual Plan for the third year. This appears to have been caused by unfamiliarity with both the size of the planning effort required and with the planning process. Flexibility to extend such planning deadlines is much more restricted under the new Timber Management Planning guidelines. In future, therefore, the parties will have to take appropriate steps to ensure timely submissions. The final two Annual Plans of the first five-year period and the Operating Plan for the second five-year period were submitted and approved on time. Annual reports were appropriately compiled and submitted.

The review team detected an apparent conflict between the stated objective of maximizing conifer harvest from the Lake Nipigon Forest and the company's surplus strategy of foregoing conifer harvest at this time in favor of future flexibility of woodsupply. This apparent conflict would suggest the need for a review, and if necessary, revision of the company's objectives for the area.

## 2. Operations

A summary of operations and associated costs for the period 1981-1986 is given in Table 1. The following provides a more detailed comment:

a) Harvesting

The harvest cut for the Lake Nipigon Forest for the initial five-year period was 75 per cent of that proposed in the Operating Plan (Figure 1). The shortfall was primarily a result of a slowdown in mill production during years two and three, resulting from the downturn in the economy during the early 1980s.

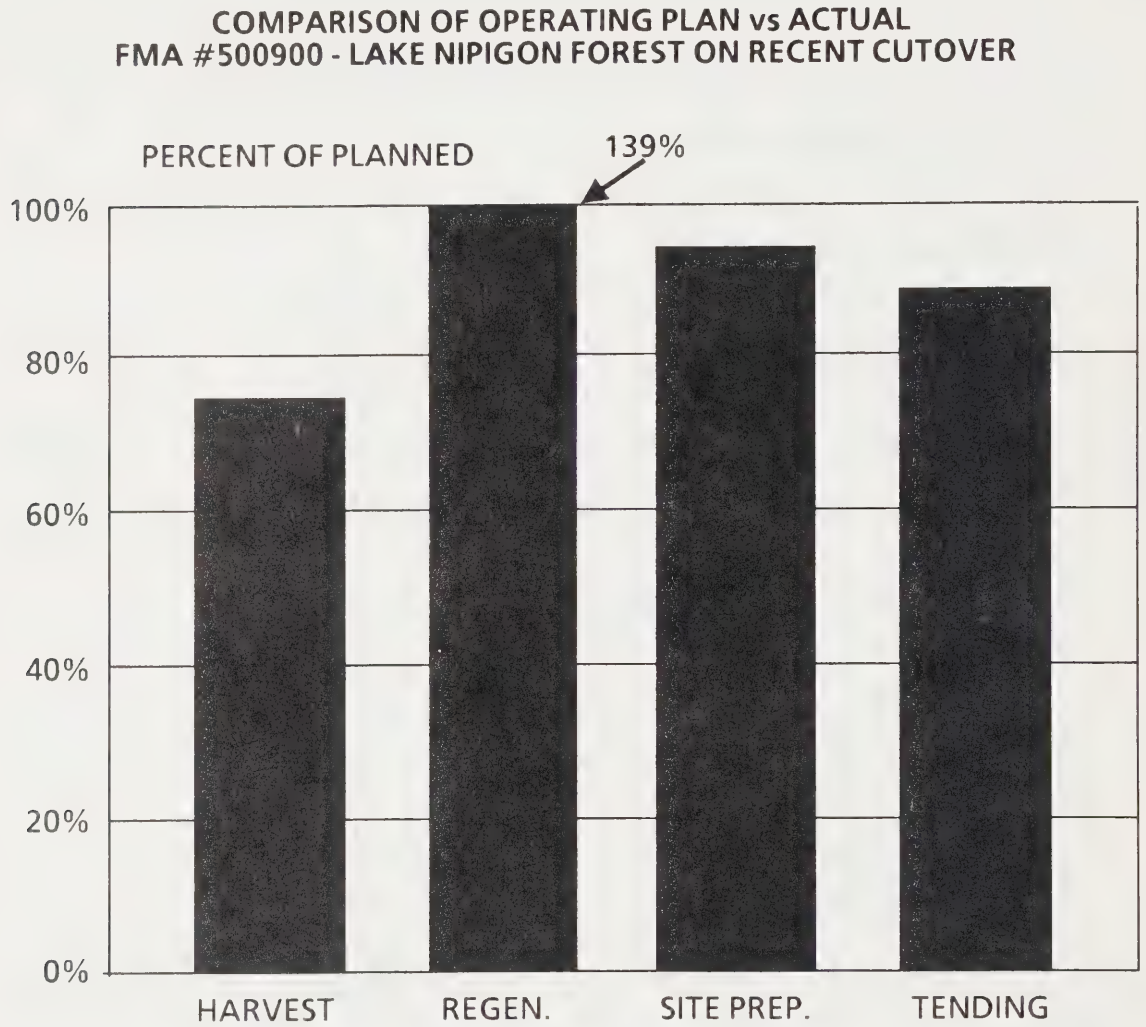
**TABLE 1**

Detailed summary of company's forest operations and ministry payments for 1981-86 (ministry phase-in not included).

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT		500900	LAKE NIPIGON FOREST DOMTAR FOREST PRODUCTS
FOR THE FIVE YEAR PERIOD 1981-1986			
ACTIVITY	HECTARES	DOLLARS	
NATURAL REGENERATION TOTAL	1,433	0	
ARTIFICIAL REGENERATION			
PLANTING BAREROOT	771		
PLANTING CONTAINER	739		
SEEDING DIRECT	1,610		
SEEDING WITH SITE PREP	473		
TOTAL ARTIFICIAL	3,593	438,982	
TOTAL REGENERATION	5,026	438,982	
TENDING			
CHEMICAL CLEANING/AERIAL	3,828		
CHEMICAL CLEANING/GROUND	0		
OTHER TENDING	128		
TOTAL TENDING	3,956	131,526	
SITE PREPARATION			
MECHANICAL	4,334		
CHEMICAL	0		
PRESCRIBED BURN	0		
TOTAL SITE PREPARATION	4,334	1,279,366	
OTHER			
SEED/CONE COLLECTION	0	0	
PROTECTION	0	0	
TOTAL SILVICULTURAL COSTS		1,849,874	
ROAD CONSTRUCTION	KILOMETRES	DOLLARS	
PRIMARY	0.00	0	
SECONDARY	280.87	5,430,777	
TOTAL CONSTRUCTION	280.87	5,430,777	
ROAD MAINTENANCE TOTAL	451.33	159,293	
TOTAL ROAD COSTS		5,590,070	
TOTAL EXPENDITURES		7,439,944	

**Figure 1**

Comparison of the actual levels of harvest, regeneration, tending and site preparation on recent cutover accumulated to 1986 and expressed as a percentage of the levels originally planned in the 1981-86 Operating Plan.





b) Roads

Of the 447 km road system planned for the Lake Nipigon Forest during the initial five year period, only 335 km were approved for construction by the ministry during the annual planning process. Domtar completed 280.9 km of construction or 84 per cent of the approved target. This apparent shortfall was not required due to lower than anticipated harvesting, coupled with a well developed pre-Agreement road system in parts of the Agreement area.

With the exception of the need for additional "rip rap" on the south side of a culvert on Vincent Creek, and the need for stabilization of both sides of the culvert crossing at Cash Creek on the airport road west of Highway #11, the roads inspected were constructed to appropriate standards. In addition, roads were noted to be located with only minor and acceptable variations from planned locations. The standards of secondary roads built with FMA funds was comparable to that of company funded roads. The quality and quantity of road maintenance was appropriate to the standards of roads and their use.



Table 2

Summary of the amount of road planned, approved and actually constructed for the 1981-86 operating period. Maintenance is done annually.

Road Type	Kilometres			% Achievement of Approved
	Planned	Approved	Actual	
Primary	0	0	—	—
Secondary	447	335	280.9	84
Maintenance	n/a	n/a	451.0	n/a

c) Silviculture

Silviculture prescriptions vary across the unit with a mixture of planting, seeding, and natural regeneration techniques being applied, depending upon site conditions. Several forms of light site preparation, with a preference for bracke (machine used in site preparation), have been used. Planting stock has been a mixture of bare root and containerized seedlings. Aerial release, using 2-4-D and more recently the herbicide "Round-up", has been the most common tending technique.

Regeneration (Figure 1) was significantly (139 per cent) above target during the initial five year period, due primarily to the enthusiasm of company staff and availability of sites. In treating recent cutover the company is often less than one year behind the cut, making for some obvious planning and scheduling difficulties. Given this fact, site preparation success of 93 per cent of target (the shortfall being due to treatment deferment on a couple of areas) is most commendable.

Tending efforts were likewise very positive, achieving 88 per cent of the target levels set out in the plan.

Natural regeneration has been used primarily with hardwood stands, but more recently has been used in conjunction with light scarification of black spruce strip cuts in wet, rocky terrain. There has been an increasing trend by the company to plant better sites while seeding the more difficult, shallow soil sites.

The company is now working closely with ministry staff in exploring the feasibility of introducing prescribed burns as a means of slash removal and site prescription.

d) Not Satisfactorily Regenerated (NSR) Lands

The company was obligated by the Agreement to treat previously defined areas which were not satisfactorily regenerated (NSR). Early in the term of the Agreement, the company recognized that the stocking standard of 60 per cent established for NSR areas was considerably greater than the minimum stocking standard of 40 per cent set out in the Agreement ground rules for recent cutover. Not only did this difference appear to be illogical, but follow-through would also be extremely costly since many stands with 40 to 60 per cent stocking would have to undergo expensive forms of heavy site preparation.

At the request of the company, the Agreement area was jointly resurveyed in 1984 using a 40 per cent stocking standard consistent with the ground rules. This survey resulted in about 20 per cent of the defined NSR moving from a category requiring expensive treatment to bring it up to 60 per cent stocking to a category of free-to-grow stocked at 40 per cent or better.

The Ministry and Domtar have recognized the resurvey as being the proper obligation for NSR treatment on the Lake Nipigon Forest, and the Agreement has been amended accordingly.

Figure 2 shows that the company effort on site preparation and regeneration on NSR lands during the first five-year period was 42 per cent and 90 per cent of that planned. Part of this shortfall related to inaccurate mapping during the first survey, part to the slowdown placed on NSR treatment prior to the resurvey and, in year five, to a shortage of planting stock. Tending accomplishments during the first five-year period were 88 per cent of planned, the shortfall relating to a slight reduction in tending effort pending the new NSR survey results.

Given the uncertainties associated with the appropriateness of the initial NSR survey, the company's initiatives in this area are viewed as both acceptable and successful.

### 3. Surplus

The Agreement requires the company to define its surplus at the end of each five-year period.

**Figure 2**

Comparison of the actual levels of regeneration, tending and site preparation on not satisfactorily regenerated areas accumulated to 1986 and expressed as a percentage of the levels originally planned in the 1981-86 Operating Plan.

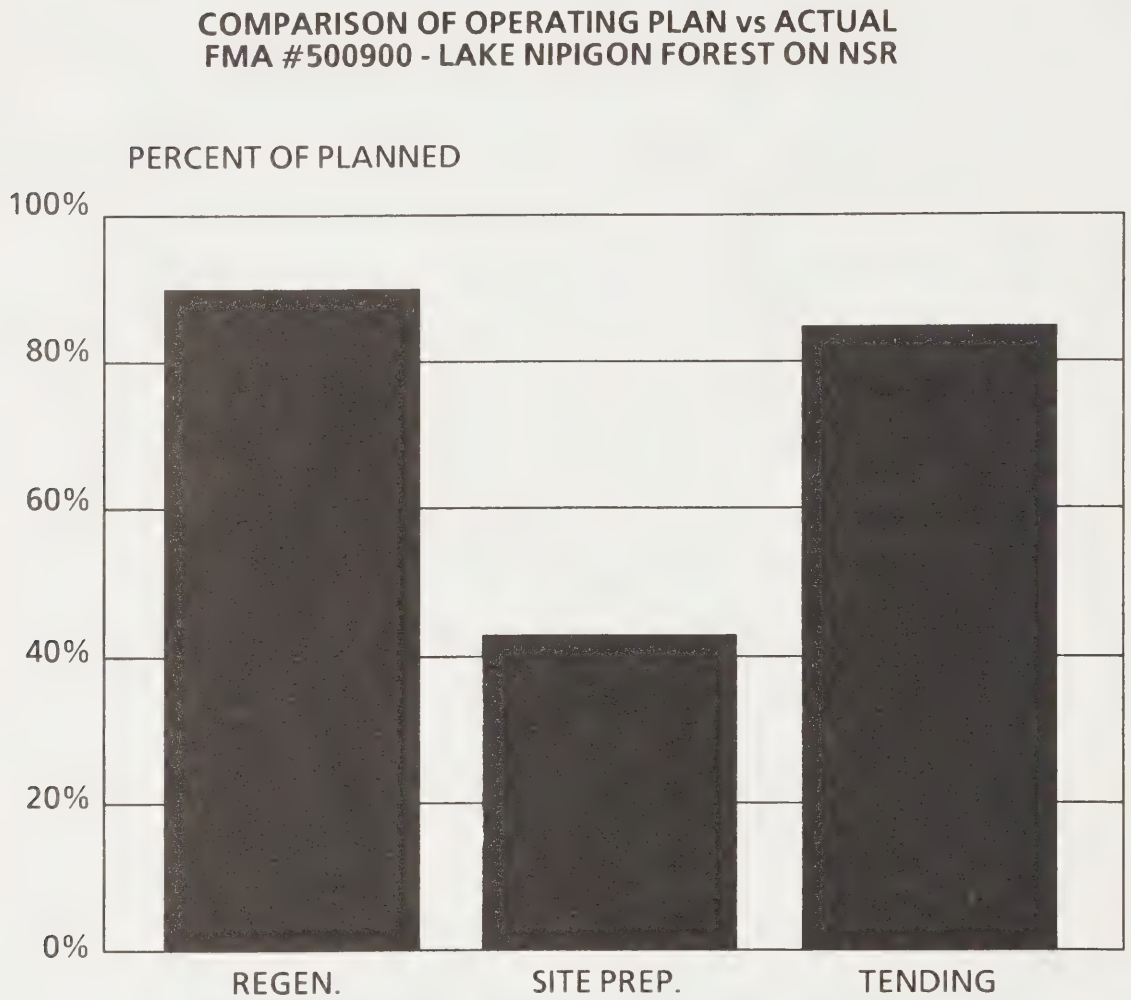


Table 3 indicates that there was an apparent shortfall of 4,455 hectares between forecasted demand and harvest cut for 1981-86. The company's precise mapping system excludes from the harvest cut small pockets of non-marketable and inaccessible areas which are defined as harvestable by the Forest Resources Inventory (FRI).

**Table 3**

Comparison of the Maximum Allowable Depletion, Forecasted Demand, and the actual harvest on the Lake Nipigon Forest (FMA 500900) for the period 1981-86.

	Working Group or F.U.	Five Year MAD (HA)	Forecasted Demand (HA)	Harvested Cut (HA)	Harvest: Demand (%)	Next 5 Year MAD
Spruce	SP2	17,405	11,700	10,560	90.3%	17,013
Jack Pine	PJ2	2,560	1,615	1,027	63.6%	2,761
Balsam Fir	BF2	8,805	1,965	1,051	53.5%	9,585
Protection Forest	PFR	2,840	1,865	1,243	66.6%	2,884
Other Conifer	OC2	470	0	21	N/A	479
Poplar	PO2	10,670	750	662	88.3%	11,251
White Birch	BW2	6,920	1,375	251	18.3%	7,333
	All	49,670	19,270	14,815	76.9%	51,306



Inclusion of this area in the harvest cut, as is standard practice elsewhere, reduces the difference between forecasted demand and harvest cut to about 3,400 hectares. This difference can be attributed to two factors: reduced demand caused by the economic slowdown of the early 1980s and a slightly higher yield than originally predicted.

The difference between the five-year Maximum Allowable Depletion (MAD) and the forecasted demand is generally viewed as surplus. The company, however, argues that items such as projected losses to fire, pathogens (disease), cull, inoperable/unmerchantable sites, and areas zoned out for other uses must be taken into consideration when calculating surplus. The company's estimate of these losses for the 1981-1986 period is approximately 42 per cent of the Maximum Allowable Depletion.

It also perceives the need for a buffer of 10 to 12 per cent of the forecasted demand as security against unanticipated constraints against purchase wood. Calculation of surplus by working group using the above approach indicates that over the 20-year time frame of the Agreement, the unit will be in a deficit supply with respect to conifer. The company has declared a surplus in the hardwood working groups for the second five-year period of 19,880 hectares, or 3,960 hectares annually.

The review team perceive it to be impractical to confirm the Company's surplus declarations for the Lake Nipigon Forest in isolation of more detailed knowledge of the status of wood availabilities on Domtar's White River FMA and Armstrong licence. While the approach outlined by the company may indeed be viable, the decision to accept it should only be made in light of the company's broader wood supply strategy. Therefore, the Ministry should review the broader Domtar wood supply strategy for the Lake Superior - north area and make decisions on the acceptability of the Lake Nipigon Forest surplus strategy on that basis.

#### 4. Integrated Resource Management

The Nipigon Forest does not have a large number of user conflicts. Many of the lakes are naturally devoid of walleye, and no major tourist use based on sport fishing has developed. The broken terrain naturally confines harvesting to small irregular clear cuts and these, plus strip cuts, provide abundant cover and edge for moose. The company has been appropriately sensitive to the location of roads and bridges and the leaving of lakeshore and stream reserves to ensure continued protection of the existing fishery and its associated isolation.

One incursion into a reserve on Vincent Creek noted during the review is being followed up with appropriate action by the MNR District office. With one or two exceptions, stream crossings are generally well located and constructed; seeding of erodable cuts along road right-of-ways at stream crossings is becoming a common practice.

The company has an opportunity in the Lake Nipigon Forest to actively encourage and promote greater recreational use of the area by groups such as campers and hunters, in co-operation with the ministry and user groups.

Such a role would not only improve the perception of the forest industry in the eyes of the general public, but it would also firmly establish the company as an industry leader in the integrated management of its land base.

## 5. Records

The automated silvicultural record system of the company is based on the ministry's silvicultural information system and appeared to be both effective and efficient. The company keeps the only records on the unit, providing the ministry with data as appropriate. Good financial records were available, but were not yet effectively tied into the silvicultural record system, making the necessary cross-referencing between invoice

files and silvicultural and road files somewhat difficult.

#### 6. Maintenance of Productivity

The Forest Management Agreement obligates the Company to produce successive crops of timber on a sustained yield basis. **Table 4** shows a comparison of the Maximum Allowable Depletion during the first five year term of the Agreement and lists the harvest, depletion and regeneration efforts. The Maximum Allowable Depletion for the next five year term is also shown. Normally the Allowable Depletion is expected to drop as the overmature portion of the forest is fully harvested or depleted. If the full Allowable Depletion is not depleted it will remain at the same or higher levels in subsequent terms.

**Table 4**

Comparison of the 1981-1986 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1986-1991 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

**FMA 500700  
DOMTAR FOREST PRODUCTS LTD.  
1981 TO 1986  
Hectares**

Working Group/or Forest Unit	1981-1986 Maximum Allowable Depletion	Total Depletion	Harvest Cut*	Regeneration Total	1986-1991 Maximum Allowable Depletion
Spruce	17,405	10,560	10,560	n/a	17,013
Jack Pine	2,560	1,027	1,027	n/a	2,761
Balsam Fir	8,805	1,051	1,051	n/a	9,585
Conifer PFR	2,840	1,243	1,243	n/a	2,884
Other Conifer	470	21	21	n/a	479
Poplar	10,670	662	662	n/a	11,251
White Birch	6,920	251	251	n/a	7,333
<b>Total</b>	<b>49,670</b>	<b>14,815</b>	<b>14,815</b>	<b>6,164</b>	<b>51,306</b>

\*As reported in 1986/91 Operating Plan.

## 7. Company commitment

The review team found the company to be firmly committed to the FMA process. Since the initiation of the FMA process, the company has strengthened senior management responsibility in Ontario, has hired two additional foresters and two additional technicians, and, has begun to move forestry staff into operations.

The company is intensifying the use of whole tree chipping in the bush, in part as a way to better utilize balsam and poplar. Experimentation with different harvesting, site preparation (including prescribed fire) and regeneration techniques is being carried out in an attempt to improve the regeneration effort. The amount of regeneration work on the Lake Nipigon Forest has increased by about 90 per cent since the institution of the FMA.

Relationships between the company and the District forestry staff appear to be positive, open, and effective. The personal involvement of company forestry staff in extensive outdoor recreation pursuits has done much to promote integrated resource management practices on the unit.

On the whole, Domtar's management of the Lake Nipigon FMA has been positive and progressive and the company deserves commendation for its efforts and successes over the initial five year period.



### III COMPANY CONCERNS

#### 1. Surplus

The company purchases about 70 per cent of its mill furnish in the form of chips and perceives that a downturn in the chip supply would force the company to increase the harvest from the Lake Nipigon Forest. The company has therefore built in a 10 to 12 per cent buffer to cover off this contingency.

In addition, the company has calculated a 42 per cent reduction in harvestable hectares to account for zone out (not intended to be under forest management at this time -- e.g. a specific lakeshore reserve), unmanageable site conditions, unmerchantable wood, pathogens, and fire.

This approach puts the company in a deficit supply for conifer during the tenure of the FMA, particularly in the last two terms. Consequently, the company has maintained that no real conifer surplus exists, and that any perceived surplus must be carried to cover off future contingencies. The incursion of spruce budworm into the Forest's 16 per cent balsam working group in 1985 bolsters this position.

## 2. Untreatable Bypass

Domtar's pre- and post-cut mapping is considerably more detailed than FRI, and as a result the company has been bypassing areas of two-to-eight hectares (the latter being the ministry minimum cutoff) and not recording them as harvest depletion. Such bypass may have been for reasons of non-merchantability, non-marketability, impossible site conditions and/or inaccessability.

Therefore, Domtar's harvest cut versus the allocated stands shows a shortfall of some 10 per cent attributable to the combination of more precise mapping and the record-keeping method. Domtar would like the ministry to recognize this shortfall as a legitimate depletion and not be forced to factor it into the surplus declaration. The ministry would also benefit from this approach as the untreatable component of this depletable bypass is not factored into the site preparation (SIP) charges.

## 3. Container Stock

As with other FMA companies, Domtar has identified several concerns with respect to the provision of container stock by the Ministry:

- o The paper pots being used confine the expansion of spruce root systems making the trees susceptible to frost heave;

- o Second-crop spruce container stock is rarely perceived by the company to be up to agreed-upon size standards;
- o Stock sources are not being identified early enough in the year;
- o MNR North Central Region must overcome the shortage of container stock due to weather/disease problems.

#### 4. Hardwood Utilization

Hardwood utilization is less than adequate because of high cull factor, lack of markets for northern wood and undercutting by third-party operators on the southern part of the licence.

The company is anticipating support from the ministry as it moves to strengthen operational planning for management of its third-party operations.

## 5. Budworm

The company is concerned about the ongoing budworm infestation in relationship to the 16 per cent of the production forest composed of the balsam fir working group. While the company will attempt to harvest more balsam via whole tree chipping in the short term, it wants the ministry to recognize the need to maintain sufficient conifer supplies to provide the needed flexibility in the unit in anticipation of serious losses in the balsam working group.

## 6. Timing of Funding Allocations

From a fiscal responsibility perspective, the company is less than happy with the late timing of formal funding allocation notices from the ministry. Generally, by the time allocation notices are received, the company is part way through the year's program and, given the realities of working within the political system, the potential threat of underfunding by government leaves the company feeling highly vulnerable.

IV RECOMMENDATIONS

1. That the Minister of Natural Resources extend Forest Management Agreement #500900 for an additional five-year term.
2. That Domtar in concert with the MNR Regional Office, review and revise, as appropriate, the stated objectives for the Lake Nipigon Forest by September 1, 1987.
3. That the MNR Regional office and Domtar agree on a method for handling small areas of depletable bypass, that the decisions as to what constitutes allowable depletable bypass be based on the mutual agreement of the company and the District, and that this process be incorporated into the ground rules by April 1, 1987.
4. That plans for third-party operators include the same level of detail as its own operational plans, that allocation of stands in the hardwood working group be brought in line with potential use, and that the company continue to attempt to improve utilization of the hardwood working group.

5. That Domtar actively pursue increasing utilization of balsam fir in its mill furnish in anticipation of losses to spruce budworm and in line with its stated position of a future shortfall of conifer on the Lake Nipigon Forest.
6. That Domtar be commended for and encouraged to continue to use riprapping and seeding of water crossings as part of its standard road building techniques.









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# Forest Management Agreements

Third Five-Year  
Review  
1982 - 1987



Ontario

Ministry of  
Natural  
Resources

Vincent G. Kerrio  
Minister



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- 135

# Forest Management Agreements

**Third Five-Year  
Review  
1982 - 1987**

**May 1988**



Ministry of  
Natural  
Resources

Vincent G. Kerrio  
Minister



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Printed in Ontario, Canada

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Public Information Centre  
Room 1640, Whitney Block  
99 Wellesley Street West  
Toronto, Ontario M7A 1W3  
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## INTRODUCTION

Forest Management Agreements (FMAs) came into being in Ontario through an amendment to the Crown Timber Act in 1979. The Act as amended provided that the Minister of Natural Resources, subject to the approval of the Lieutenant-Governor-in-Council, could enter into Forest Management Agreements with private sector companies.

The FMAs, which cover a specific section of Crown land, replace existing licensing arrangements with an Agreement which requires the companies to manage the forests in the FMA area on a sustained-yield basis. In addition to harvesting, the FMA holder is responsible for all planning, regeneration and other silvicultural activities necessary for proper forest management, including the construction of access roads.

The Ministry of Natural Resources provides certain funding, and must approve the required management documents submitted by the companies. The Agreements are for 20 years, but Section 15 provides that every five years, the Minister must evaluate how the company has carried out its obligations under the Agreement and the associated management documents. If satisfactory, the FMA is renewed for another five years. This is called an "evergreen" arrangement.

In 1985, the Minister released the first five-year reviews of the first five FMAs in the province. A report on the relationship between harvest and growth, including regeneration, of timber for the five FMA areas was tabled in the Ontario Legislature, as required by legislation. All five FMAs were renewed for another five-year term.

In 1986, the Minister released the second five-year review. A report on the relationship between harvest and growth, including regeneration, was tabled in the Ontario Legislature, as required by legislation. The Abitibi-Price Inc. Spruce River Forest FMA and the Domtar Forest Products Lake Nipigon Forest FMA were extended for another five-year term. The Great West Timber Black River Forest FMA was not initially extended but has since been extended for another five-year term.

As of January 1988, there were 30 FMAs in the province, covering a total of 177,821 square kilometres. This is 69 per cent of the 257,244 square kilometres of licensed forest in the province. The location of these Agreements is shown on the following page.

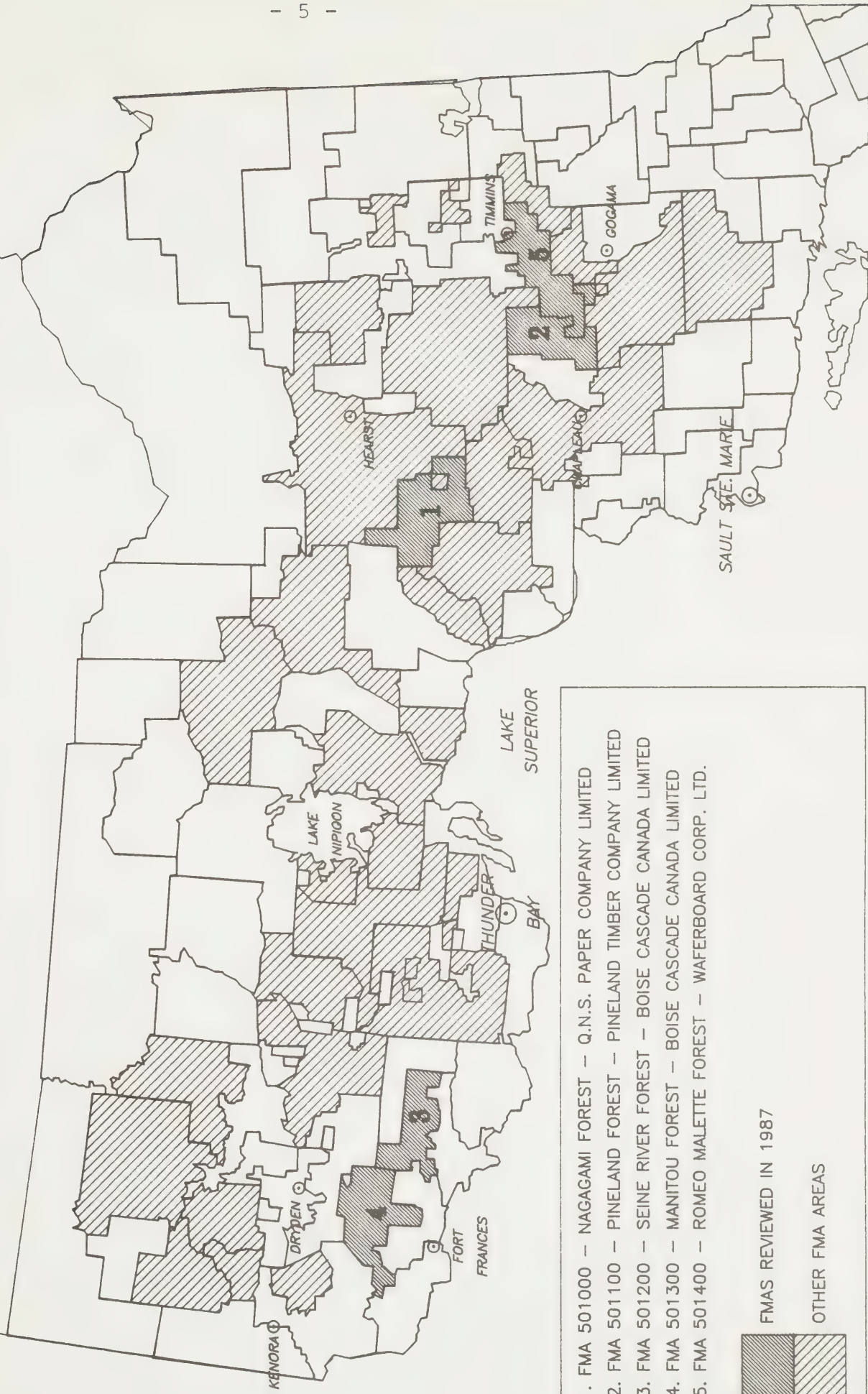
In 1987, the five-year reviews on five more FMAs were conducted and are the subject of this report. The Agreements are:

1. Quebec and Ontario Paper Company Limited, Nagagami Forest  
- FMA 501000
2. Pineland Timber Company Limited, Pineland Forest  
- FMA 501100
3. Boise Cascade Canada Limited, Seine River Forest  
- FMA 501200
4. Boise Cascade Canada Limited, Manitou Forest  
- FMA 501300
5. Waferboard Corporation Limited, Romeo Malette Forest  
- FMA 501400



# FOREST MANAGEMENT AGREEMENTS

## 1987 FIVE YEAR REVIEW





This report summarizes the various forest operations carried out by the five companies and presents the recommendations of the committee which conducted the reviews. The role of the review committee was to assess the commitment of the companies to their obligations as identified in the Agreements.

The obligations are:

- a) Submission dates for management and operating plans, annual work schedules and reports are to be established and met;
- b) harvest: may not exceed the Maximum Allowable Depletion (the annual allowable cut) and companies may be liable for damages following the fifth year if their planned requirements are not harvested;
- c) obligations for treatment of Not Satisfactorily Regenerated (NSR) lands are to be met;
- d) compliance with ground rules which indicate the silvicultural treatments on a site-specific basis;
- e) road construction;
- f) compliance with other forest users.

The review committee was comprised of three members engaged by the Ministry of Natural Resources for the purpose of conducting the five reviews. The committee assessed the commitment of the Companies to their FMA obligations, reviewed written records and conducted field inspections to assess company performance.

Activities on the FMA areas during the five-year periods prior to and after the agreements were signed are compared in Table 1. It shows that while the actual harvest increased 10 per cent, regeneration increased 132 per cent, tending increased 173 per cent and site preparation increased by 194 per cent.

TABLE 1

Relationship between harvest and silviculture activities on FMAs 500100 through 501400, for a five-year period before and after entering into Agreements.

Activity	By Ministry Before FMA	By Companies and Ministry during FMA	Percentage Change
(Hectares)			
Harvest	51,896	56,994	10
Regeneration	16,920	39,249	132
Tending	4,728	12,921	173
Site Preparation	14,241	41,803	194

The Agreements have a requirement for the companies to treat Not Satisfactorily Regenerated (NSR) lands which existed at the signing of the FMA. In four instances, the obligations were substantially exceeded (Table 2). In the fifth case, the Pineland Forest, 97 per cent of the NSR treatment obligation was fulfilled.

---

TABLE 2

Not Satisfactorily Regenerated (NSR) obligations and treatment for three FMA areas for 1981-86.

---

Company and Forest Name	NSR Obligation to Date (Hectares)	NSR Treated to date
Ontario Paper Company Ltd. Nagagami Forest FMA 501000	371	2,546
Pineland Timber Company Ltd. Pineland Forest FMA 501100	1,939	1,887
Boise Cascade Canada Ltd. Seine River Forest FMA 501200	440	1,667
Boise Cascade Canada Ltd. Manitou Forest FMA 501300	589	5,869
Waferboard Corporation Ltd. Romeo Malette Forest FMA 501400	145	1,491

---

The committee also reviewed company concerns about the FMA arrangements and made a number of recommendations to address issues specific to each FMA.

In all five cases, the review committee recommended that the Agreements be extended for another five-year term.

# **Five-Year Review**

**Quebec and Ontario Paper  
Company Limited  
(formerly Q.N.S. Paper  
Company Limited,  
Ontario Paper Company Division)**

**Nagagami Forest  
Agreement 501000  
1982-1987**



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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Company Limited, Ontario Paper Company Division (now known as the Quebec and Ontario Paper Company) signed a Forest Management Agreement (FMA) on the Nagagami Forest near Hornepayne on March 14th, 1983. The purpose of that agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the forests of Nagagami are harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This fifth-year review was conducted on the Nagagami Forest to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended by a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G. W. Bell, R.P.F., Vice-President Woodlands (Retired),  
Spruce Falls Power and Paper Company Ltd.,  
Committee Chairman,
- Mr. R. A. Baxter, Director of Operations, Northern Ontario,  
Ministry of Natural Resources (Retired), and
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Ontario Paper Company's performance on the Nagagami Forest during its first five-year term vis-a-vis its obligations under the forest management agreement and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management plans, operating and annual plans and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion records, silvicultural records and access road maps for adequacy and for conformity with the management plans and the ground rules,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (N.S.R.) lands in the annual reports with those required by provisions of the agreement,
- selecting and field inspecting harvest cuts and silvicultural projects typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and

- . meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraphs 6(1), 10(1), 11(1) and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared according to the timeframes specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on March 14th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until August 31st, 1984 in order to resolve forestry-tourism conflicts that existed on the Nagagami Forest. The final plan was submitted by the Company on the agreed-to date and was found to be acceptable to the Ministry.

The operating plan for the 1982 to 1987 period was due September 23rd, 1983 but was not submitted until December 1983. The delay was again due to the need to resolve forestry-tourism conflicts.

The annual plans for the first year of the period under review were prepared under Crown Timber licences 384200 B & C and 288404. The 1983-84 annual plan was submitted on March 11th, 1983. The 1984-85 annual plan was submitted November 21st, 1983. The annual plans for the fourth and fifth years were submitted prior to the due dates.

The Company has prepared a management plan for the second five-year term in accordance with the new and more complex Timber Management Planning Manual for Crown Lands in Ontario. This new plan was submitted by the due date and approved by the Ministry on March 19th 1987.

In conclusion, the Company was found to have been late in meeting its management planning obligations during the initial years but did so with the concurrence of the Ministry. By the fourth year of the term all plans were being submitted on time.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silviculture and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. The only deviations detected were considered to be of a minor and inconsequential nature. The levels of harvest, silvicultural activity and access construction during the five years were lower than those specified in the plans, as portrayed in Figure 1.

Reasons for the low level of harvest are provided in Section 2.3 and for road construction in Section 2.5 of this report. Silvicultural levels were down from those planned due to the reduced level of harvest and therefore the availability of sites for treatment.

TABLE 1

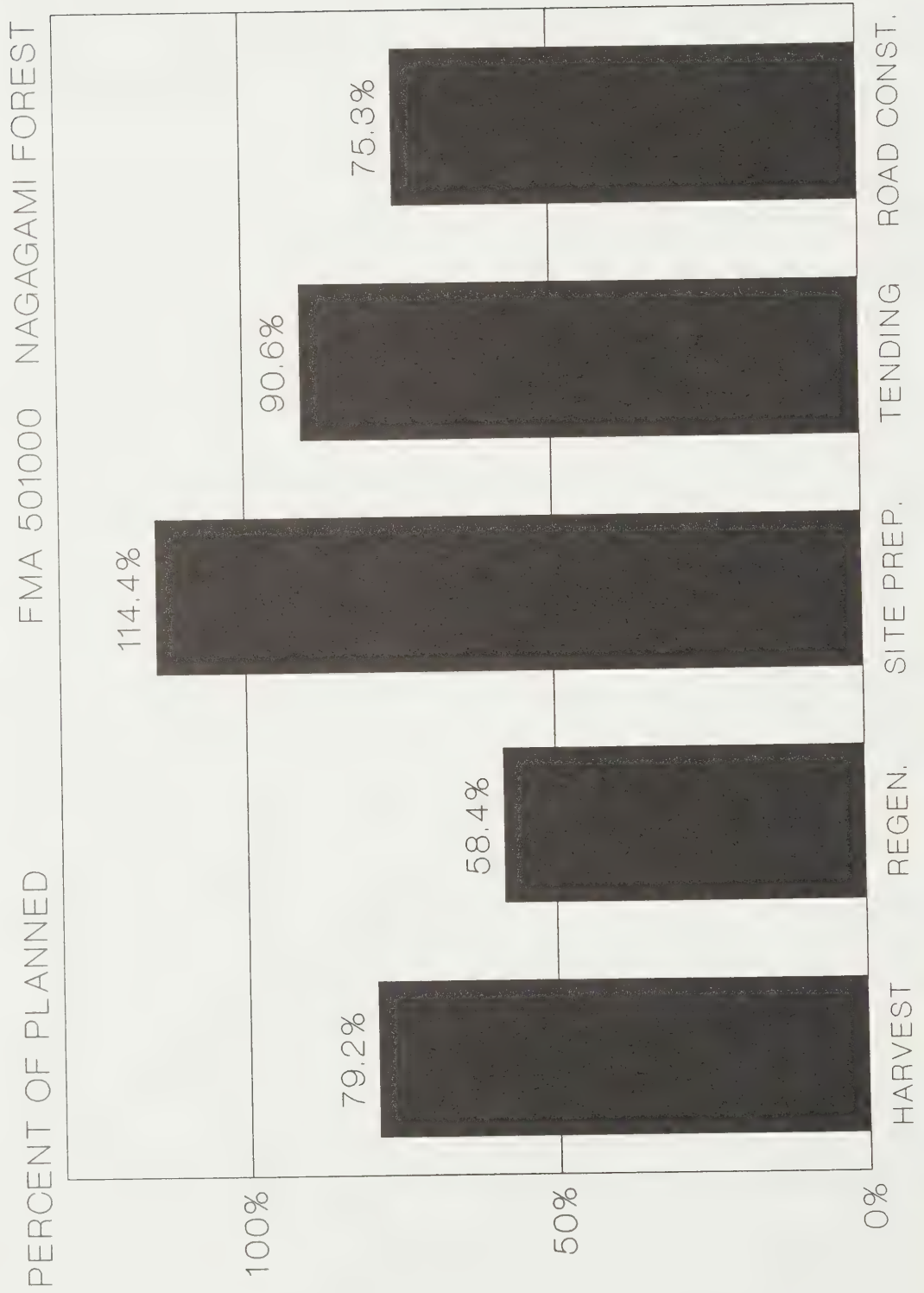
Summary of the Company's forest operations at Ministry expense for 1982-87.

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1982-87		FMA 501000 NAGAGAMI FOREST ONTARIO PAPER COMPANY
ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	13,315	
NATURAL REGENERATION	832	
ARTIFICIAL REGENERATION		
PLANTING BARERROOT	2,003	
PLANTING CONTAINER	984	
SEEDING DIRECT	3	
SEEDING WITH SITE PREP	9	
TOTAL ARTIFICIAL	2,999	
TOTAL REGENERATION	3,831	
TENDING		
CHEMICAL CLEANING/AERIAL	2,734	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
TOTAL TENDING	2,734	
SITE PREPARATION		
MECHANICAL	5,783	
CHEMICAL	431	
PRESCRIBED BURN	0	
TOTAL SITE PREPARATION	6,214	
MNR SILVICULTURE PAYMENTS		2,394,542
ROAD CONSTRUCTION	<u>KILOMETRES</u>	<u>DOLLARS</u>
PRIMARY	162.3	
SECONDARY	140.7	
TOTAL CONSTRUCTION	303.0	7,800,002
ROAD MAINTENANCE	660.8	291,012
MNR TOTAL ROAD PAYMENTS		8,091,014
TOTAL PAYMENTS		10,485,556

N.B. This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest Management Activities were also conducted by MNR, at additional expense.



FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on the discussions held with Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURE OPERATIONS WITH THE GROUND RULES

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representative (D.C.R.) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. The ground rules do provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules, and several innovations to convert N.S.R. lands on prime sites to spruce were implemented on the Nagagami Forest. These techniques were proposed by the Company in its annual plans and approved by the Ministry prior to implementation.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas were to be identified in the annual plan, prior to harvest if possible, and included as depletions in the annual report following harvest. To-date no areas have been classed as non-treatable on the Nagagami Forest despite the fact that over 13,315 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cutover during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

#### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Clarification of invoices was requested by the Ministry in some cases, but apparent problems were quickly resolved.

#### 2.2.4 THE PREPARATION OF NEW GROUND RULES

The forest management agreement with the Company calls upon both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before that expiry date. The committee notes that this obligation has been met and that new ground rules were agreed to prior to April 1st, 1987.

### 2.3 HARVEST LEVELS AND ALLOWABLE CUT

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the Nagagami Forest at a level between 90% and 110% of the calculated allowable cut for each working group. The Company may request the Minister to authorize variations, to those levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to his needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a forest management agreement.

The Company met its 90% harvest requirement only in the spruce working group; spruce was required to replace the 40% reduction in poplar furnish in order that the Company could meet the market demands for higher quality paper. Harvest obligations were not met in all other working groups. No additional surplus declarations were requested by the Company despite the fact that the level of undercut was apparent by the third year. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable cut for all working groups combined.

There were several valid reasons for the company's failure to utilize its planned level of harvest. The Olav Haavaldsrud Timber Company sawmill at Becker which is supplied by the Company's Nagagami operation burned down in 1982 and was not back in production until 1985. The Ontario Paper Company mill modernization had start-up difficulties and eventually switched to a higher-than-forecast blend of waste newsprint. Both events reduced the Company's demand for wood from the Nagagami forest.

The management plan for the period 1987 to 1992 identified timber surplus for the second five-year term, and the Minister has pursued his prerogative to licence that surplus, to Dubreuil Brothers Limited.

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

#### 2.4 N.S.R. OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest N.S.R. lands, at the rate of 5% of class 2 and 3 N.S.R. lands annually. This amounts to a total of 371 hectares for the five-year term under review and 1,485 hectares for the entire 20-year period of the agreement.

The Company, on its own initiative, elected to accelerate the rate of N.S.R. treatment and has to-date reforested 2,546 hectares as shown in figure 3.



FIGURE 2: COMPARISON OF ALLOWABLE CUT, ALLOCATION, AND HARVEST

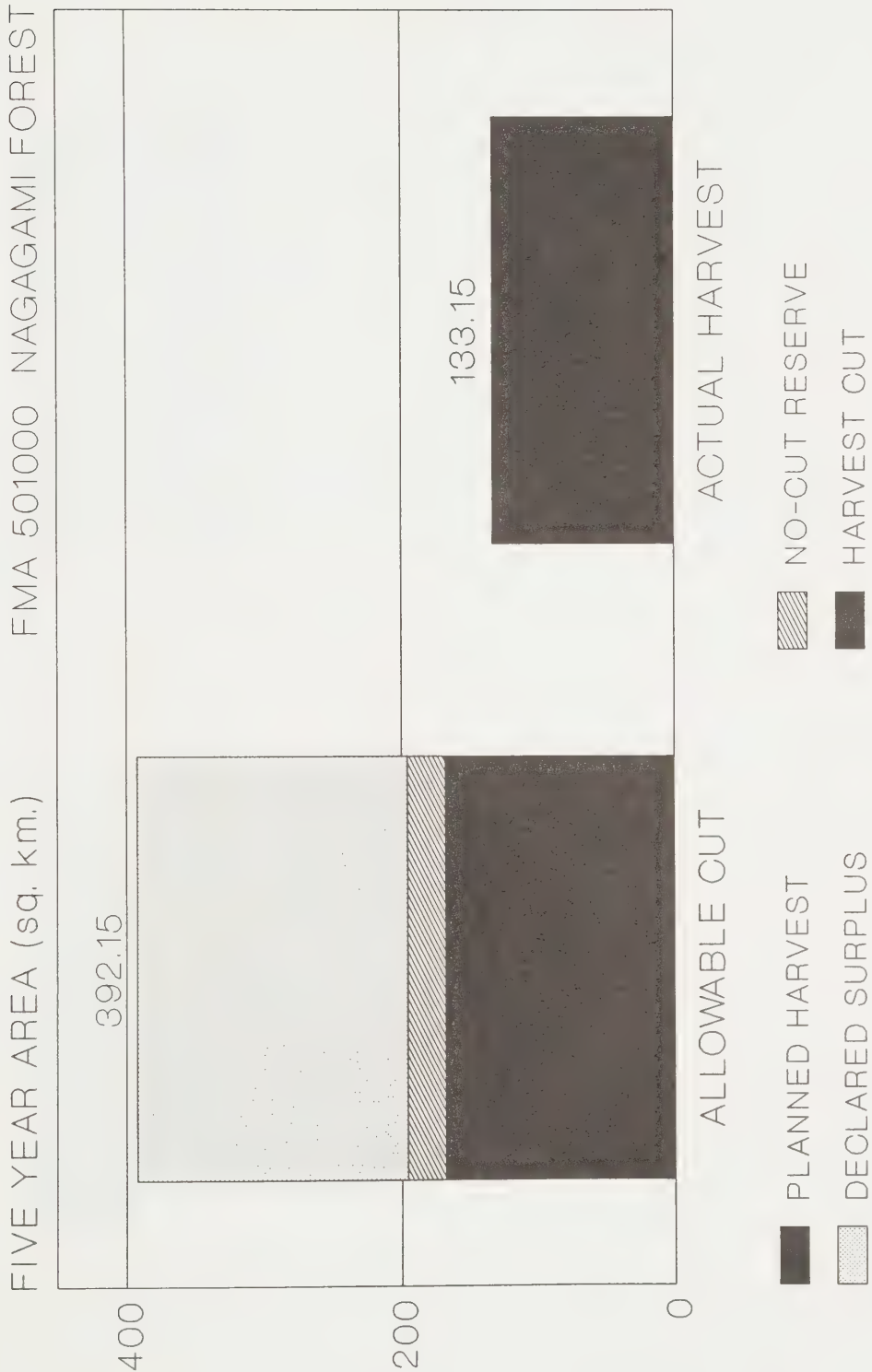
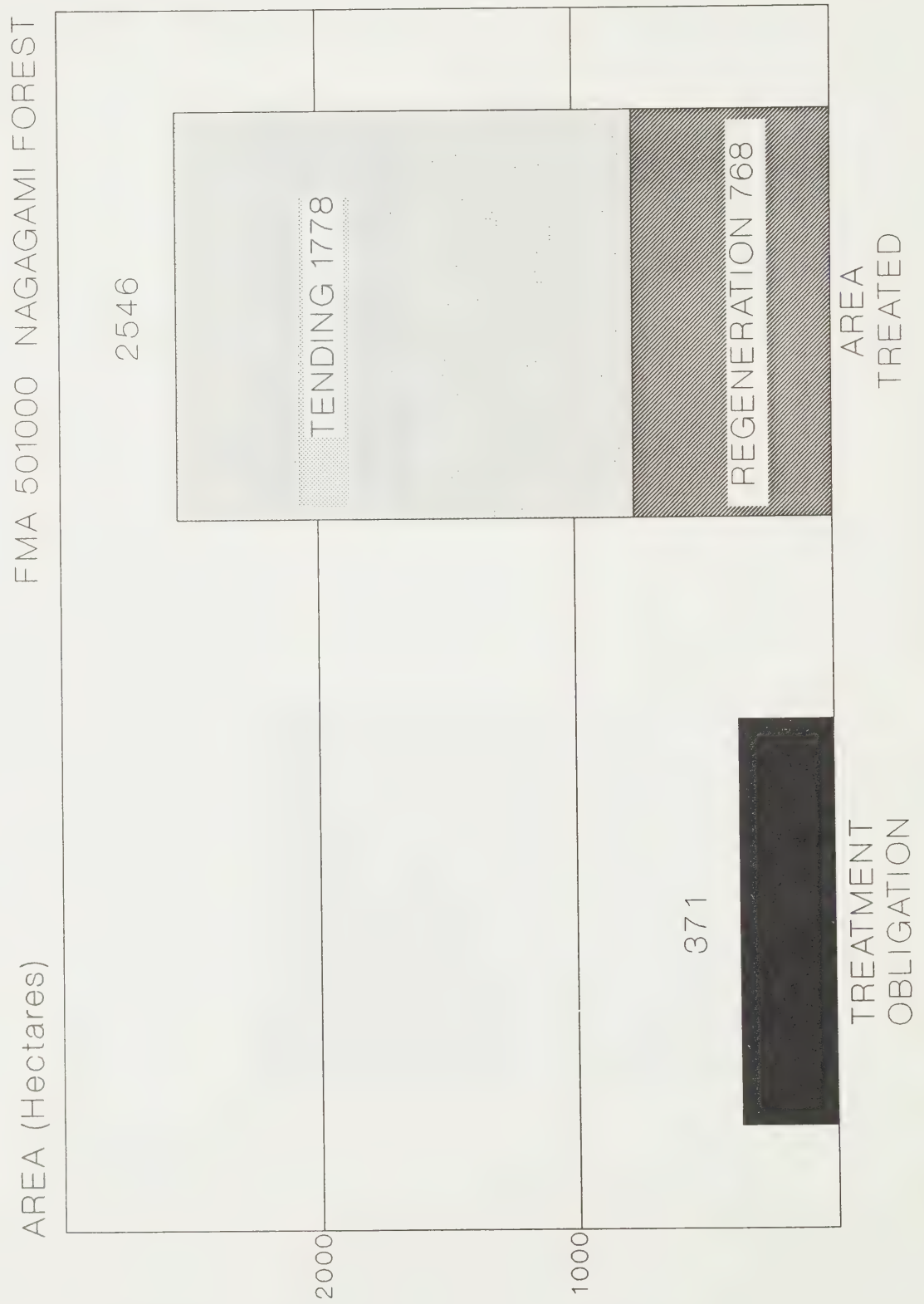




FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1982-87



This level of achievement results in part from the crediting of the treatment of other unregenerated backlog not included in the original N.S.R. survey. The Company is to be commended for the initiative it has shown in putting N.S.R. lands back into production.

**RECOMMENDATION:** That the Minister acknowledge the fulfilment of the Company's N.S.R. treatment obligations for the entire period of the 20-year agreement.

## 2.5 ROAD CONSTRUCTION

Paragraph 27 of the agreement provides for the Minister to pay for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

On the Nagagami Forest, roads are inspected jointly by a Ministry representative and a Company representative prior to acceptance for final payment. In no case during the period under review has a road been judged to be sub-standard according to those standards.

Figure 1 shows a reduction from the level of planned road construction to the level of actual construction during the term under review. Two reasons were offered for the shortfall: the level of harvest was lower than that planned (see explanations of Section 2.3 of this report), and the level of MNR funding allotment for road construction was lower than that requested.

## 2.6 COMPANY RECORDS

The committee found the Company's records to be excellent. Detailed information is readily available from their extensive

computer and map records. Silviculture, harvest cut and depletion record forms are completed and the information is then entered into computers. Detailed information is kept in excess of that required by the Ministry. Records for individual projects were followed from the original plan to the field to the final invoicing, and no problems were encountered.

The data for silviculture projects carried out by the Ministry of Natural Resources during the phase-in period had not, at the time of the review, been entered into the Company's computer records but the review committee was advised that this is about to be done.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement require the agreement holder to prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year preceding.

The committee found the company had submitted an annual report by the submission date in accordance with the manual in each year of the agreement. These reports were reviewed by the D.C.R. of the day; in two cases the Company was asked to make minor corrections to its report and did so.

The Company and the D.C.R. have since found errors in those reports in the classification of treated areas as "N.S.R." or "recent cut". The Company is now in the process of transferring its silvicultural records to electronic format and correcting these errors.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules entitled Modified Management Areas, details how other forest users were to be identified and accommodated during the first five-year term. It was the responsibility of the Ministry to identify these areas and make prescriptions to accommodate other forest users. The Company was to implement the Ministry's prescriptions, so as to protect those other forest values. The committee found that in general the Company has met these requirements.

The Company raised objections to a few directives that it considered unreasonable, but it also participated actively in finding solutions.

A major constraint in the agreement area is the presence of 23 registered tourist operators with 13 fly-in lodges, and 17 outpost camps. These tourism establishments depend on remote fly-in opportunities, and this poses a problem for forest accessing. The location and construction of forest access roads in proximity to these recreational areas constitute major issues of contention from time to time between the Company and the local tourism industry. The company has shown a sensitivity to this problem by willingly meeting with the tourist operators over tourism issues. As well, the Company has followed directives imposed by the Ministry.

A major tourism/access concern exists in the Obakamiga Lake area. A moratorium on accessing this area was imposed by the Ministry initially for a 5-year period, now extended to 10 years. The moratorium area represents approximately 13,800 ha of mature and overmature forest. Because this area is contributing to the allowable cut of the Nagagami Forest but has not been made available for harvesting, a resolution of the problem is required.

**RECOMMENDATION:** That the Ministry come to a final decision on an access plan for the Obakamiga Lake moratorium area, and that any major area of productive forest land rendered permanently unavailable for harvest by that plan be removed from the landbase contributing to the allowable cut. A permanent decision is required prior to the commencement of the preparation of the next management plan (1992-2012).

Generally, fish and wildlife interests have been well accommodated by forest operations. For instance, a heronry was identified and preserved during harvesting operations. The Chelsea Hill moose wintering area, identified by the Ministry, was harvested using special prescriptions. Roads for the most part have been located well back from major waterbodies.

Bridge construction and installation of culverts have been generally well handled but at three of the inspected sites bank stabilization could be improved.

Mining activities, in particular staking, have imposed some complications for forestry operations in the Oba area because the Mining Act states that claim posts must not be disturbed. There is a need for the Company, Ministry and mining companies to continually communicate in order that the impacts be minimized.

### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion (allowable cut) which was calculated for the Nagagami Forest at the beginning of the five-year term under review. It indicates that the level of harvest and other forest depletions was well within the bounds of the maximum allowed under sustained yield management for all working groups. Forty-eight percent of the area harvested during the five years received a regeneration treatment; the remaining area is either intended for natural regeneration or is fresh



cutover. The area of regeneration assessed as free-to-grow during the term was 365 ha; this area will increase in the next five-year term as more Company-treated areas become eligible for free-to-grow assessment.

Table 2

NAGAGAMI FOREST FMA 501000

Comparison of the 1982-1987 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1987-1992 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

Working Group/or Forest Unit	1982-1987 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	*1987-1992 Maximum Allowable Depletion
Spruce X,1,2	11,310	8,102	7,205		11,007
Spruce 3	1,920	144	128		1,994
Balsam Fir	2,760	1,803	1,646		2,706
Jack Pine	4,460	935	911		4,492
Poplar X,1,2	11,140	3,126	2,860	N/A	10,408
Poplar 3	4,005	351	342		4,287
White Birch X,1,2	2,325	123	117		2,326
White Birch 3	615	22	22		658
Other Conifer	680	86	84		704
Total	39,215	14,692	13,315	6,454	38,582*

\* M.A.D. based on average-age calculation



The review committee was most impressed with the productive nature of Nagagami's sites and with the organization and intensity of silvicultural practice by the Company. Allocation of old and budworm-damaged timber for harvest and the continued treatment of cutover areas with intensive silvicultural methods will result in higher levels of timber productivity on the Nagagami Forest.

#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501000 or with regard to the Ministry's administration of the agreement. Senior management of the Ontario Paper Company, though generally satisfied with the workings of the FMA, expressed concerns in the following areas:

- Any exclusion of chemical pesticides will reduce the level of protection and regeneration of the forest and the capability of the Company to carry out its obligations under the agreement.
- Road access restrictions will add significantly to Company operating costs.
- Large mature and overmature reserves maintained to accommodate the local tourist operators will substantially reduce future annual allowable cuts if not made available for harvest in the near future.
- Excessive requests via the Management Planning Manual for large quantities of operating maps for public reviews adds significantly to Company operating costs.

- The Ministry has placed a "cap" on the planting stock program, and this could impact on the Company's ability to regenerate cut-over lands on the Nagagami Forest.
- The Company has accepted what it considers as inferior quality planting stock during the first five-years because the Ministry could not supply additional planting stock as replacement. Under such circumstances, they feel that there should be a procedure to enable D.C.R.'s to waive the obligations of retreatment at Company expense for plantation failures attributable to stock quality.
- The recent influx of mining activity, in particular claim staking, has created operational problems for the regeneration program.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the company under the agreement have been satisfactorily performed by the Company during the five-year term under review, and notes that the Company and the Ministry have agreed to a management plan and ground rules for the second five-year term. The committee was impressed with the electronic quality control and record-keeping system being put into place by the Company, with the organization and intensity of silvicultural effort on its part, and with the Company's commitment to the success of its efforts on the Nagagami Forest.

**RECOMMENDATION No. 1:** That the Minister extend the remaining period of FMA 501000 by a further term of five consecutive years to March 31st, 2007.

RECOMMENDATION No. 2: That the Company and the Ministry jointly review the treatable status of lands cutover during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

RECOMMENDATION No. 3: That in the event the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

RECOMMENDATION No. 4: That the Ministry acknowledge the fulfilment of the Company's NSR treatment obligations for the entire period of the 20-year agreement.

RECOMMENDATION No. 5: That the Ministry come to a final decision on an access plan for the Obakamiga Lake moratorium area, and that any major area of productive forest land rendered permanently unavailable for harvest by that plan be removed from the landbase contributing to the allowable cut. A permanent decision is required prior to the commencement of the preparation of the next management plan (1992-2012).

# **Five-Year Review**

**Pineland Timber Company Limited**

**Pineland Forest  
Agreement 501100  
1982-1987**



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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Pineland Timber Company Limited signed a Forest Management Agreement (FMA) on the Pineland Forest located near Foleyet on February 28th, 1983. The purpose of that agreement was to provide for a continuous supply of forest products to the wood processing plants of the Company at Nairn Centre, Timmins and Espanola and to ensure that the forests of Pineland are harvested and regenerated to provide successive crops of timber on a sustained yield basis.

This fifth-year review was conducted on the Pineland Forest to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended by a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. R.A. Baxter, Director of Operations, Northern Ontario Ministry of Natural Resources (Retired), Committee Chairman,
- Mr. G.W. Bell, R.P.F., Vice-President Woodlands Spruce Falls Power and Paper Company Ltd. (Retired), and
- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of the Pineland Timber Company performance on the Pineland Forest during its first five-year term vis-a-vis its obligations under the forest management agreement and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management plans, operating and annual plans and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion records, silvicultural records and access road maps for adequacy and for conformity with the management plans and the ground rules,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (N.S.R.) lands in the annual reports with those required by provisions of the agreement,
- selecting and field inspecting harvest cuts and silvicultural projects typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and

- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraphs 6(1), 10(1), 11(1) and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared according to the timeframes specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on February 28th, 1983 and the management plan was due twelve months later. The first draft of the plan was submitted on the due date. Alterations were required and an extension of the due date of the revised plan was granted by the Ministry, as additional time was required to review potential conflicts with other forest users. The altered plan was due October 31st, 1984 and was received December 3rd, 1984.

The operating plan for the 1982 to 1987 period was due August 31st, 1983 and was submitted in early September 1983. The plan was returned to the Company for alterations and was resubmitted March 19th, 1984. Additional time was required to resolve the modified management area (MMA) package and the location of the main access road which would join up the Dore Road with the E.B. Eddy Company roads on the adjacent Upper Spanish Forest.

For the first year of the agreement, Pineland Timber Company operated under the annual plan for licence 224800. The annual plan for the second year of the agreement was prepared prior to

the signing of the FMA with the understanding that operations for that year would be carried out under the terms of the agreement. That annual plan was due February 28th, 1983, and was submitted on schedule. The annual plan for the 1984-85 year, due Oct 31 1983, was submitted December 2nd, 1983. Beginning with the 1985-86 planning year, the due date for annual plans was altered to December 1 for all FMAs. The Pineland 1985-86 annual plan was submitted on October 31st, 1984, one month before the due date, while the plan for the fifth year (1986-87) was submitted on December 9th, 1985.

The Company has prepared a management plan for the second five-year term in accordance with the new and more complex Timber Management Planning Manual for Crown Lands in Ontario. The new plan was due October 1st, 1986 and was submitted October 5, 1986, and resubmitted February 16th, 1987. The delay was due to problems in the finalizing of the location of river crossings and the need to resolve other forest user conflicts.

In conclusion, the Company was found to have been late in meeting some of its management planning obligations.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silviculture and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. The only deviations detected were considered to be of a minor and inconsequential nature. Amendments to the plans were requested

TABLE 1

Summary of the Company's forest operations at Ministry expense for 1982-87.

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1982-87	FMA 501100 PINELAND FOREST PINELAND TIMBER COMPANY LTD.
--	---

ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	13,433	

NATURAL REGENERATION	0	
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ARTIFICIAL REGENERATION

PLANTING BAREROOT	1,837	
PLANTING CONTAINER	2,339	
SEEDING DIRECT	0	
SEEDING WITH SITE PREP	27	
TOTAL ARTIFICIAL	4,203	

TOTAL REGENERATION	4,203	
--------------------	-------	--

TENDING

CHEMICAL CLEANING/AERIAL	1,519	
CHEMICAL CLEANING/GROUND	9	
OTHER TENDING	0	
TOTAL TENDING	1,528	

SITE PREPARATION

MECHANICAL	6,192	
CHEMICAL	1,193	
PRESCRIBED BURN	0	
TOTAL SITE PREPARATION	7,385	

MNR SILVICULTURE PAYMENTS	3,558,833
---------------------------	-----------

ROAD CONSTRUCTION	KILOMETRES	DOLLARS
PRIMARY	121.0	
SECONDARY	258.1	
TOTAL CONSTRUCTION	379.1	7,435,240

ROAD MAINTENANCE	646.1	285,020
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MNR TOTAL ROAD PAYMENTS	7,720,260
-------------------------	-----------

TOTAL PAYMENTS	11,279,093
----------------	------------

N.B. This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest Management Activities were also conducted by MNR, at additional expense.



both in harvest allocations and road locations and were given approval by the Ministry. The levels of harvest and access construction during the five years were lower than those specified, while the level of silvicultural activity was above those specified in the plans as portrayed in Figure 1. Reasons for the low level of harvest are provided in Section 2.3 and for road construction in Section 2.5 of this report.

The seeding objective was not reached as the Company switched to hand scalping and planting with container stock on sites originally planned for seeding, which is an acceptable regeneration treatment under the ground rules.

## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

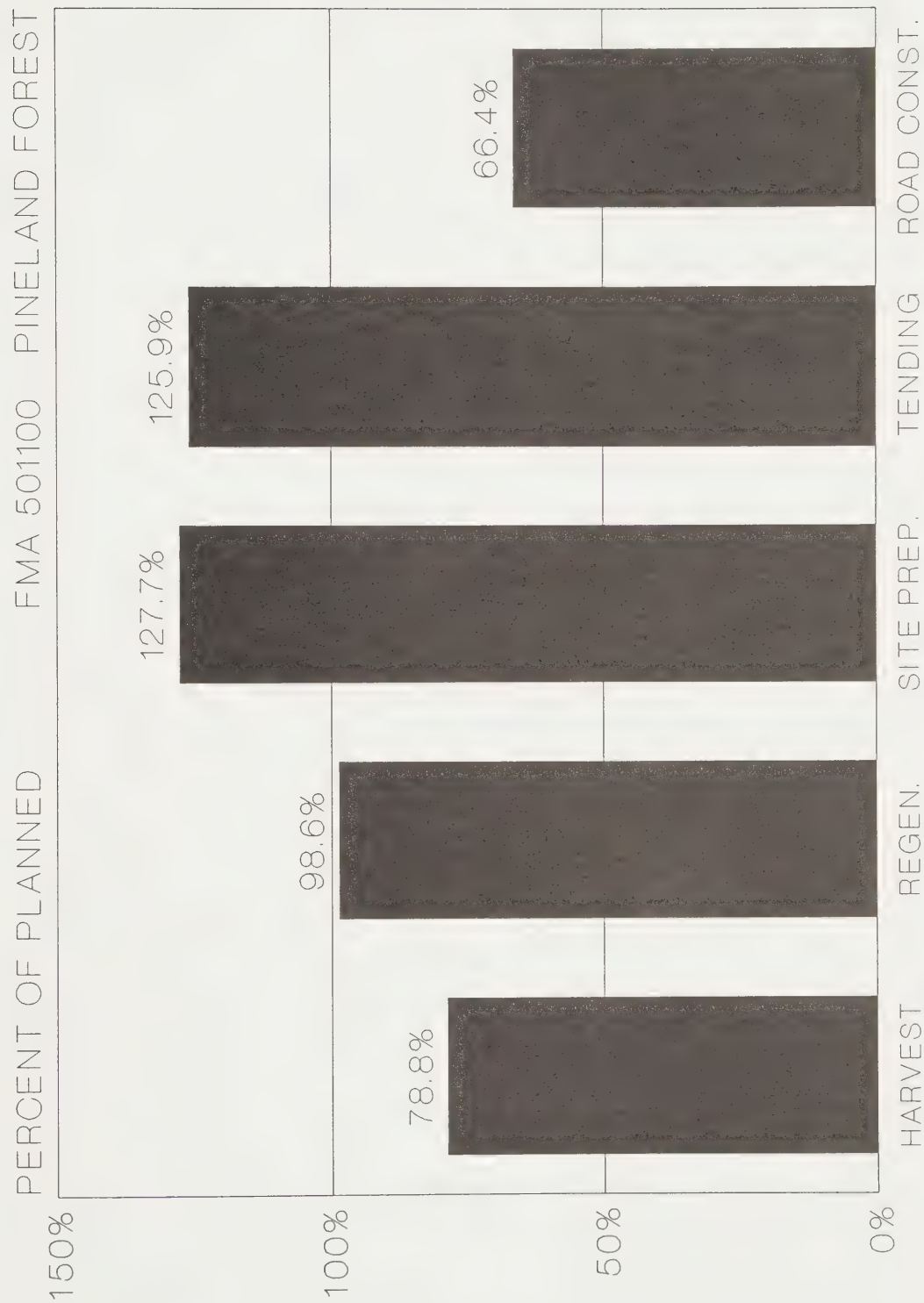
Based on the discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURE OPERATIONS WITH THE GROUND RULES

The committee's examination of the silvicultural records, its field inspections and its discussion with the designated Crown representative (D.C.R.) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. The ground rules do provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new silvicultural techniques were proposed by the Company in its annual plans and approved by the Ministry prior to any implementation.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat.

Non-treatable areas were to be identified in the annual plan, prior to harvest if possible, and included as depletion in the annual report following harvest. To-date no areas have been classified as non-treatable on the Pineland Forest despite the fact that over 13,400 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them today will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cutover during the five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

#### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Some invoices were returned by the Ministry for clarification but differences were resolved immediately.

#### 2.2.4 THE PREPARATION OF THE NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon those ground rules on or before that expiry date. The committee notes that this obligation

has been met and that the new ground rules were agreed to by both parties prior to April 1st, 1987.

### 2.3 HARVEST LEVELS AND ALLOWABLE CUT

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest level on the Pineland Forest at a level between 90% and 110% of the calculated allowable cut for each working group during each five-year term. The company may request the Minister to authorize variations to those levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to his needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a forest management agreement.

The Company did not meet its harvest obligations in any of the working groups during its first five-year term. The level of the undercut was evident by mid term but no request for variation of the 90% harvest was made to the Minister. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable cut, for all working groups combined.

There are a number of reasons for the Company's failure to utilize its planned level of harvest. These include:

- very soft lumber markets in 1982 and 1983 which reduced mill production to 58% and 80% respectively of planned production,

FIGURE 2: COMPARISON OF ALLOWABLE CUT, ALLOCATION, AND HARVEST





- harvesting was reduced within the agreement area because of a Company decision to complete harvesting on a third party agreement area on the Spruce Falls Power & Paper Company Limited licence (Reeves Twp.) before it expired March 31, 1983, and
- planned shipments of pulpwood to customers were cancelled due to poor paper markets,

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

#### 2.4 N.S.R. OBLIGATIONS

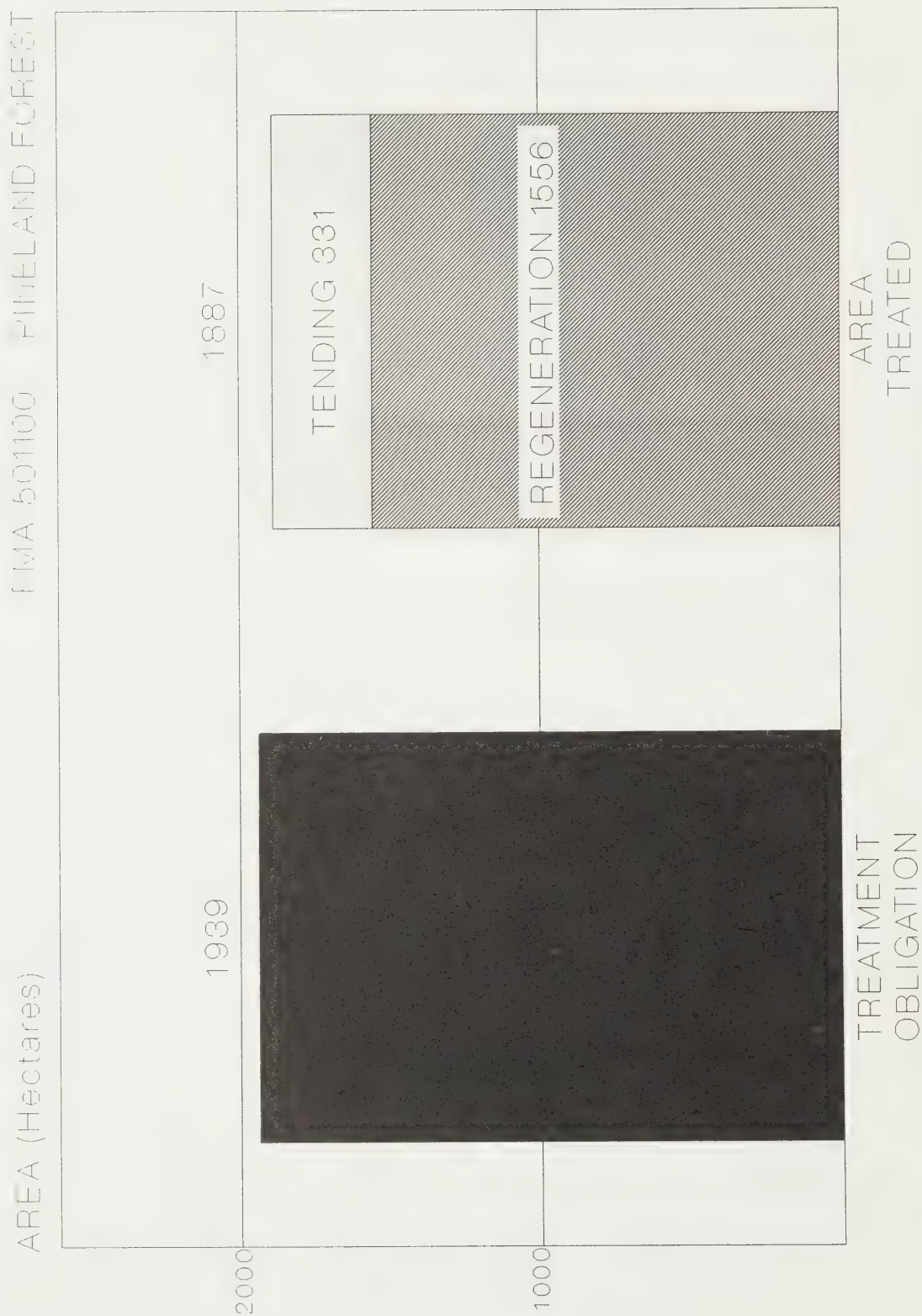
Under provisions of the agreement, the Company has an obligation to reforest N.S.R. lands at the rate of 5% of class 2 and 3 N.S. R. lands annually. This amounts to 1,939 ha in the five-year term under review, as shown in Figure 3. The Company completed 97% of its obligated commitment according to the agreement. The Company is on track to meet its full N.S.R. obligations and the review committee was impressed with the intensive regeneration practices that it observed on N.S.R. lands.

#### 2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.



FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1982-87



On the Pineland Forest, roads are inspected jointly by a Ministry Representative and a Company representative prior to acceptance for final payment. A few kilometers of road were found to be below standard on initial inspection in the early years of the agreement, but as soon as this was pointed out by the Ministry representative, the Company took corrective action. In the last three years, roads have been built to the specified standards.

Figure 1 shows a reduction from the level of planned road construction to the level of actual construction during the term under review. Two reasons were offered for the shortfall: the level of harvest was lower than that planned (see explanations of Section 2.3 of this report), and the level of MNR funding allotment for road construction was lower than that requested.

## 2.6 COMPANY RECORDS

The committee found that documentation of the dates of submission, alteration, re-submission, approval and amendments of its management documents was lacking in many cases. Copies of the input received as a result of public review of its timber management plan were not on file, although available at the MNR district office. The committee encourages the Company to recognize the importance of documenting its performance of agreement obligations and to improve its correspondence files in this regard.

Silvicultural records have evolved from manually produced data and multiple maps to computer-controlled information related to areas recorded on a master mylar. The current method provides excellent accessibility to information and control of records from initiation of site preparation through to free-to-grow status.

Records for individual projects were followed from the original plan to the field to the final invoicing with no problems encountered.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires the agreement holder to prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year proceeding.

As the agreement was not signed until February 28th, 1983, the annual report for the first year of the agreement was exempted from the April 30th deadline. The report for the second year was not submitted on time while those for the third, fourth and fifth years were submitted by the established due date.

Three of the five reports were returned to the Company for correction as the data submitted by the Company did not correspond with the Ministry's data in such categories as total road costs and area of silvicultural treatment.

**RECOMMENDATION:** That prior to the submission of annual reports, the Company take action to ensure that its records are correct and up-to-date.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 7 of the ground rules entitled Withdrawals and Reserves, details how other forest users were to be identified and accommodated during the first five-year term. It was the responsibility of the Ministry to identify these areas and make prescriptions to accommodate other forest users. The Company was to implement the Ministry's prescriptions, so as to protect those other forest values.

Water crossings were examined during the field trip and were found to be generally well handled.

In conducting its operations the Company has respected the M.M.A.'s with only one inadvertent trespass during the five-year term but it has regularly requested approval to carry out modified cutting within these areas. Some joint on-site inspections have been made in an attempt to arrive at prescriptions for specific areas. These have mostly been successful. However, more effort is required to resolve problems in a collaborative manner at the field level.

The Company has been able to minimize conflicts with mining companies despite heavy staking in areas where intensive silvicultural activities are taking place. Company officials have also participated in meetings with the local tourist association and individual tourist operators and have been successful in reducing potential conflicts, though some remain.

Despite this apparent progress, some differences separate the Company and the Ministry in terms of approach in the matter of integration of other resource values. Company officials believe that the Ministry gives too much weight to tourism interests on the Pineland Forest and are unconvinced of the need for many of the M.M.A.'s prescribed by the Ministry for protection of fish and wildlife values.

**RECOMMENDATION:** That senior Company and Ministry officials develop a plan of action to facilitate implementation of Section 15 of the ground rules for the second five-year term entitled "Integration Of Other Resource Values In Timber Management". This plan of action to be in place within six months of the approval of this review.



### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion (allowable cut) which was calculated for the Pineland Forest at the beginning of the five-year term under review.

It indicates that the level of harvest and other forest depletions was well below the maximum allowed under sustained yield management for all working groups. Fifty-four percent of the area harvested during the five-year operating period received

Table 2

PINELAND FOREST FMA 501100

Comparison of the 1982-1987 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1987-1992 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

Working Group/or Forest Unit	1982-1987 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1987-1992 Maximum Allowable Depletion
Jack pine	4,377	2,738	2,503		4,796
Black spruce	5,356	2,625	2,544		6,912
White spruce	1,020	473	431		1,338
Balsam fir	N/A	362	331	N/A	3,314
Other conifer	1,441	378	323		1,672
Poplar	8,604	4,070	3,881		9,753
White Birch	8,181	3,512	3,420		9,977
Total	28,979	14,158	13,433	7,281	37,762

a regeneration treatment; the remaining area is either intended for natural regeneration or is fresh cut-over. There was no area eligible for free-to-grow during the term under review but many areas currently being treated will become free-to-grow in the next five-year term.

The review committee was impressed with the progress of regeneration and site preparation practices and by the enthusiasm of the Company personnel.

#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with FMA 501100 or with regard to the Ministry's administration of the agreement. The following are the concerns listed by senior management of Pineland Timber Company Limited.

1. F.M.A. Funding: The Company expressed concern with the level of funding for road construction, concern over the Ministry's late notification date of funding allotments and concern over the Ministry's ability to continue to finance the provincial F.M.A. program.
2. M.N.R. Staff Turnover: The high rate of staff turnover at the Chapleau M.N.R. district office is an impediment to the development of a good working relationship between the Company and M.N.R.
3. Tending After Free-To-Grow: The Company finds that paragraph 23 of the agreement (stumpage reduction) provides insufficient incentive to carry out tending treatments after stands have been declared free-to-grow.



4. The Classification of Non-treatable Areas: The concern here is over reaching agreement with the Ministry on treatability of some areas and on a formal procedure to document areas which are classed non-treatable. Also, there is no appeal

procedure to use in the event M.N.R. and the Company cannot reach mutual agreement on the classification of specific areas (i.e. treatable or non-treatable).

5. Prime Site Management: The Company and the Ministry both support the "prime site" approach to silvicultural decision making; but the Company is concerned with the possible repercussions that literal interpretation of paragraph 24 of the agreement and the ground rules may have on this approach. (The prime site concept is one in which the prescribed intensity of silvicultural effort is varied according to a number of site and economic factors).
6. Autonomy Of Management: The opportunity to have meaningful input into new M.N.R. policies and procedures vitally affecting M.M.A.'s is at times not provided to the Company.
7. Management Planning: The Ministry's requirements for management plans, annual work schedules, plan amendments and support documentation have become, in the opinion of the Company, unnecessarily onerous, and with reference to the M.N.R.'s present policy on amending the existing Timber Management Plan or annual work schedule, highly inflexible.
8. Nursery Stock: That the quantity of nursery stock for the F.M.A. not be capped in the future.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee is satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review and notes that the Company and the Ministry have agreed to a management plan and ground rules for the second five-year term. The committee was impressed by the amount of effort put forth by the Company in its silvicultural program and with the commitment of the Company and its staff towards a successful Pineland Forest.

**RECOMMENDATION No. 1:** That the Minister extend the remaining period of FMA 501100 by a further term of five consecutive years to March 31st, 2007.

**RECOMMENDATION No. 2:** That the Company and the Ministry jointly review the treatable status of lands cutover during the five-year term for which Table 1. of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

**RECOMMENDATION No. 3:** That in the event that the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

RECOMMENDATION No. 4: That prior to the submission of annual reports, the Company take action to ensure that its records are correct and up-to-date.

RECOMMENDATION No. 5: That senior Company and Ministry officials develop a plan of action to facilitate implementation of Section 15 of the ground rules for the second five-year term entitled "Integration Of Other Resource Values In Timber Management". This plan of action to be in place within six months of the date of approval of this review.

# **Five-Year Review**

**Boise Cascade Canada Limited**

**Seine River Forest  
Agreement 501200  
1982-1987**



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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Boise Cascade Canada Limited signed a Forest Management Agreement (FMA) on the Seine River Forest located near Fort Frances on March 30th, 1983. The purpose of that agreement was to provide for a continuous supply of forest products to the wood processing plants of the Company at Fort Frances and to ensure that the forests of the Seine River Forest are harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This fifth-year review was conducted on the Seine River Forest to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended by a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands Spruce Falls Power and Paper Company Ltd., (Retired) Committee Chairman,
- Mr. R.A. Baxter, Director of Operations, Northern Ontario, Ministry of Natural Resources (Retired), and
- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3            TASKS OF THE REVIEW COMMITTEE

The Review Committee's assignment was to undertake a fair and objective review of Boise Cascade Canada Ltd. performance on the Seine River Forest during its first five-year term vis-a-vis its obligations under the forest management agreement, and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management plans, operating and annual plans and the annual reports prepared by the Company, with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion records, silvicultural records and access road maps for adequacy and for conformity with the management plans and the ground rules,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (N.S.R.) lands in the annual reports with those required by provisions of the agreement,
- selecting and field inspecting harvest cuts and silvicultural projects typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and

- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraphs 6 (1), 10 (1), 11 (1) and 15 (1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared according to the timeframes specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on March 30th, 1983 and the management plan was due 12 months later. The plan was submitted on March 30th, 1984 and received for final approval on November 16th, 1984.

The operating plan for the 1982 to 1987 period was due September 30th, 1983. An extension was given by the Ministry until November 30th, 1983, and the plan was submitted prior to that date. The plan was approved on April 27th, 1984.

For the first year of the agreement operations were carried out under part of Parcel 1, Schedule C, Licence 326700. The annual plan for 1983-84 was submitted on time while the plan for 1984-85 was submitted on November 15th, 1984. This approved late submission resulted from changes in the operating plan which was being prepared concurrently. The plans for the last four years under review were returned to the Company for minor alterations and they were all resubmitted by the required date.

The Company has prepared a management plan for the second five-year term in accordance with the new and more complex Timber Management Planning Manual For Crown Lands in Ontario. The new plan was submitted prior to the due date of October 1st, 1986.

In conclusion, the Company met its management planning obligations for the 20-year management plan, the five-year operating plan and the annual plans. The Ministry was complimentary to the Company on the quality of its management planning.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silviculture and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Three minor deviations and one major deviation from the approved cutting areas were recorded, all of which resulted in charges under the Crown Timber Act. The major deviation involved the cutting of standing timber rather than the timber in a blowdown area. Other deviations were considered to be inconsequential. Amendments to the plans were requested both in harvest allocation and road locations. Public hearings were held for major amendments. The levels of harvest, access construction, and silvicultural activity during the five years were lower than those specified in the plans as portrayed in Figure 1.

TABLE 1

Summary of the Company's forest operations at Ministry expense for 1982-87.

FMA EXPENDITURE AND  
ACCOMPLISHMENT REPORT  
FOR THE FIVE YEAR TERM 1982-87

FMA 501200  
SEINE RIVER FOREST  
BOISE CASCADE CANADA LTD.

<u>ACTIVITY</u>	<u>HECTARES</u>	<u>DOLLARS</u>
HARVEST CUT	6574	
NATURAL REGENERATION	192	
ARTIFICIAL REGENERATION		
PLANTING BAREROOT	95	
PLANTING CONTAINER	608	
SEEDING DIRECT	2,759	
SEEDING WITH SITE PREP	521	
TOTAL ARTIFICIAL	3,983	
TOTAL REGENERATION	4,175	
TENDING		
CHEMICAL CLEANING/AERIAL	1,456	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
TOTAL TENDING	1,456	
SITE PREPARATION		
MECHANICAL	3,867	
CHEMICAL	421	
PRESCRIBED BURN	0	
TOTAL SITE PREPARATION	4,288	
MNR SILVICULTURE PAYMENTS		1,016,406
ROAD CONSTRUCTION	<u>KILOMETRES</u>	<u>DOLLARS</u>
PRIMARY	33.3	
SECONDARY	36.1	
TOTAL CONSTRUCTION	69.4	2,101,850
ROAD MAINTENANCE	157.1	70,000
MNR TOTAL ROAD PAYMENTS		2,171,850
TOTAL PAYMENTS		3,188,256

N.B. This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest Management Activities were also conducted by MNR, at additional expense.



FIGURE 1: COMPARISON OF OPERATING PLAN VS ACTUAL



## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on the discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURE OPERATIONS WITH THE GROUND RULES

The committee's examination of the silvicultural records, its field inspections and its discussions with the designated Crown representative (D.C.R.) all confirmed that harvesting and silvicultural activities have been conducted in accordance with the ground rules. The ground rules do provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new silvicultural techniques were proposed by the Company in its annual plans and these were approved by the Ministry prior to implementation.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas were to be identified in the annual plan, prior to harvest if possible, and included as depletions in the annual report following harvest. To date no areas have been classified as non-treatable on the Seine River Forest despite the fact that over 6,500 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them today will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut-over during the five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed upon to be non-treatable in the 1988-89 annual report.

#### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Any difference in hectares treated, number of trees planted, or kilometres of road constructed or maintained were reconciled between the Company representative and the D.C.R.

#### 2.2.4 THE PREPARATION OF THE NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules and to agree upon those ground rules on or before that expiry date. The preparation of the new ground rules commenced during the first week of July, well in advance of the required date, and were agreed upon prior to the required date of March 31st, 1987.

#### 2.3 HARVEST LEVELS AND ALLOWABLE CUT

According to paragraph 20 (1) of the agreement, the Company has agreed to maintain its harvest level on the Seine River Forest at a level between 90% and 110% of the calculated allowable cut for each working group during each five-year term. The Company may request the Minister to authorize variations to those levels specified in the agreement.

Paragraphs 20 (3) and 20 (4) of the agreement provide for either remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to his needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a forest management agreement.

The Company did not meet its harvest obligations in any of the working groups during its first five-year term. The level of the undercut was evident by mid-term but no request for variation of the 90% harvest was made to the Minister. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable cut, for all working groups combined.

The main reason for the Company failure to utilize its planned level of harvest was reduced mill production due to soft market conditions in 1982 and 1983. To lessen the economic impact on any one labour group, harvest levels were reduced in all the Company's wood procurement areas, including its forest management agreements, Crown management units and purchase wood.

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

#### 2.4 N.S.R. OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest N.S.R. lands at the rate of 5% of class 2 and 3 N.S.R. lands annually. This amounts to 440 ha in the five-year term under review. The Company completed 378% (1667 ha) of its

FIGURE 2: COMPARISON OF ALLOWABLE CUT, ALLOCATION, AND HARVEST





obligated commitment. The review committee was impressed with the Company's plans and effort to regenerate N.S.R. lands as seen in Figure 3.

## 2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

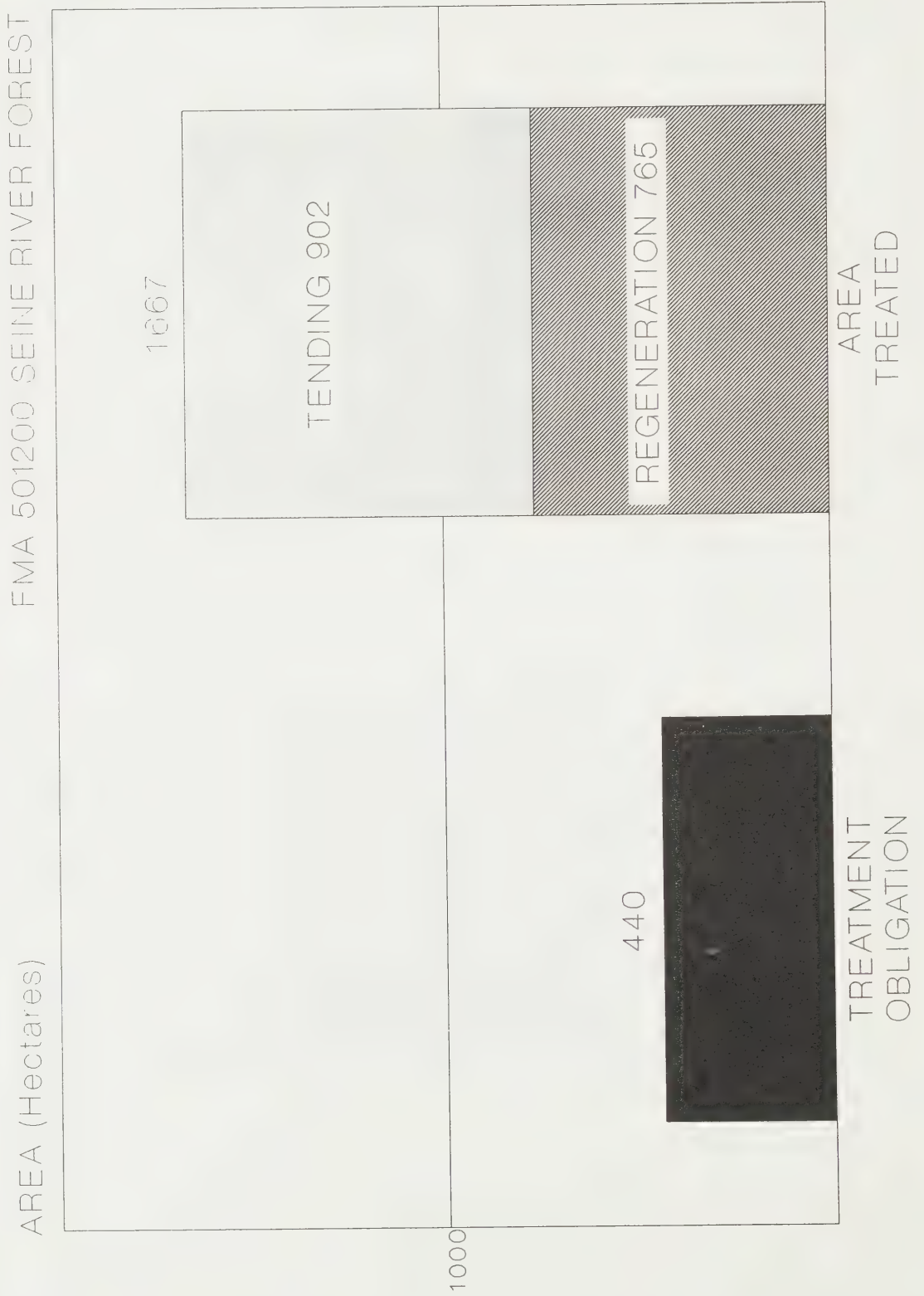
On the Seine River Forest most primary roads had already been built prior to the FMA agreement. New construction concentrated on secondary roads, mainly connected to the Glenorchy main road. Completed roads are inspected jointly by the Ministry district senior operations technician and a Company representative prior to acceptance for final payment.

The Company had constructed its roads to standards higher than those specified in Schedule "E" (e.g. primary road load capacity 160,000 lbs. vs. the Schedule "E" requirement of 158,000 lbs.; secondary road minimum travel surface 16 feet vs. 13 feet). In no case during the term under review has a road been judged to be substandard.

Figure 1 shows that the level of road construction was lower than that planned. This shortfall occurred mainly in the first year of the term under review and had been almost corrected by the fifth year.



FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1982-87



## 2.6 COMPANY RECORDS

The committee found that the Company's records concerning the documentation of submission, resubmission, approvals and amendments of its management documents were kept in a manner that allowed for easy reconciliation with the requirements of the agreement.

Silvicultural records are catalogued by numbers assigned to management blocks marked on mylar maps. Each treatment is detailed on an appropriate form and the forms collected into record books.

All records were readily available. In 1985 the Company began a new system of electronic record keeping and is now transferring its records to this format.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires the agreement holder to prepare an annual report in accordance with the Forest Management Manual. The committee found the Company had submitted an annual report by the due date in accordance with the manual in each year of the agreement. No significant errors were found by the D.C.R. and no reports were returned for corrections - an admirable record. The area of silvicultural treatment reported was verified by the review committee by a planimetry of sample projects. It was found to be accurate for the last two years, but slightly to considerably conservative during the first three years.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 8 of the ground rules, entitled Management For Other Uses, details how other forest users were to be identified and

accommodated during the first five-year term. It was the responsibility of the Ministry to identify these areas and make prescriptions to accommodate other forest users. The Company was to implement the Ministry's prescriptions, so as to protect those other forest values.

The committee was impressed with the sincerity of Company efforts to accommodate other forest users. The many lakes in the area provide opportunities for tourism, and the Company has not only attended tourist associated meetings but also has become quite comfortable in direct negotiations with individual outfitters.

The Company has worked hard at eliminating inadvertent infractions of modified management area (MMA) prescriptions; much time has been spent explaining regulations to contractors so that they will understand the importance of following them. The result has been a record of very few violations of regulations related to MMA's or to additional regulations protecting other users.

The review committee was pleased with the spirit of cooperation that exists between staff of the Ministry and the Company. This cooperation routinely results in the swift and amicable resolution of land use issues in the management of the Seine River Forest. The Company and Ministry staff credited their harmonious relationship to:

- the staff continuity of both parties (especially that of the D.C.R.)
- the knowledge and familiarity of both parties with field conditions on the forest, and
- a mutual respect for each others professional integrity.

Any potential negative impacts of roads on other users have been minimized by following Ministry guidelines concerning road location. Water crossings were few due to these guidelines and the nature of the topography. No bridges were built on F.M.A. roads and only in a few places were large culverts needed. Field inspection by the committee revealed good placement of culverts. Approaches were usually well covered with vegetation.

The block system of management has impressed other forest users and has greatly simplified the process of accommodating their concerns. Most moose habitat requirements were met by reducing the size and by increasing the dispersion of clearcut. In only a few cases, where larger blocks were cut due to the presence of overmature timber (e.g. the Meggisi area), travel corridors of standing trees were required to be left for moose through the cut area.

Nests of eagles, ospreys and herons were located and surrounding timber stands set aside from cutting, according to Ministry guidelines.

Few mining problems have occurred.

### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum depletion (allowable cut) which was calculated for the Seine River Forest at the beginning of the five-year term under review.

It indicates that the level of harvest and other forest depletions was well below the maximum allowed under sustained yield management for all working groups. Seventy-eight percent of the area harvested during the five-year operating period received a regeneration treatment; the remaining area is fresh cut-over currently in the process of receiving treatment. There

were no areas eligible for free-to-grow assessment during the term under review but many areas currently treated will become free-to-grow in the next five-year term.

Table 2

SEINE RIVER FOREST FMA 501200

Comparison of the 1982-1987 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1987-1992 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

Working Group/or Forest Unit	1982-1987 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1987-1992 Maximum Allowable Depletion
Spruce X	1,925	1,235	825		1,849
Spruce 2	2,392	1,890	1,358		2,312
Balsam Fir	805	420	307		750
Jack pine	7,588	4,513	2,803	N/A	7,377
Red pine	0	22	16		200
White pine	38	15	11		36
Other conifer	104	8	6		
Poplar	5,707	1,273	902		5,711
White birch	3,123	480	346		3,213
Total	21,682	9,856	6,574	5,155	21,448

The review committee observed some regeneration failures that occurred in the early years of the agreement, but were satisfied with the results of the past few years. The Company is currently retreating these understocked areas at its own expense and has an aggressive regeneration program to ensure acceptable stocking in the future. It was obvious that the Company is deeply committed to regenerating cutovers on the Seine River Forest.



#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with the Seine River Forest FMA 501200 or with regard to the Ministry's administration of the agreement. The following are the concerns as expressed by senior management of Boise Cascade Canada Limited:

##### 1. Nursery Stock Availability

The Company is very concerned about the low numbers of nursery stock currently made available for regeneration programs on the Seine River and Manitou Forests. These F.M.A.'s currently receive sufficient stock to treat only 20% of the area harvested.

Recently approved Timber Management Plans (1987-92) indicate that 40-45% of the area harvested should be planted to properly treat the component of "high competition" mixed wood sites found on these forests.

##### 2. Substandard Planting Stock

In recent years, the stock received by the Company has often fallen short of the stock parameters stipulated in the ground rules. These deficiencies are often made known to the Company less than a month before planting is to begin. Under such circumstances, planting contracts are already in place, areas are site prepared and the Company has little option but to accept the substandard stock, if it is healthy. In accepting stock under these circumstances, the ground rules indicate that the Company assumes all retreatment costs if failure occurs. The Company feels that where Ministry nurseries produce substandard stock, the Ministry should assume all retreatment costs where later



failure can be attributed to initial stock quality.

3. **Crown Management Unit (C.M.U.) Programs**

The Boise Cascade Canada Fort Frances mill depends on Crown Management Units in its wood supply area for approximately 35% of its total mill volume on an annual basis. In recent years, as regeneration programs on the Seine River and Manitou Forests have expanded to required levels, the Crown Unit programs have been severely constrained. For example, in 1987, F.M.A. aerial tending programs were fully funded while similar programs on adjacent Crown Units were not funded. The Company is very concerned with this trend and urges the Ministry to provide for the necessary levels of forest regeneration on both Crown and F.M.A. units to sustain long-term wood supplies in the Fort Frances area.

5. **CONCLUSIONS AND RECOMMENDATIONS**

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review and notes that the Company and the Ministry have agreed to a management plan and ground rules for the second five-year term. The committee was impressed by the amount of effort put forth by the Company with regard to its silvicultural program and with the commitment of the Company and its staff towards a successful Seine River Forest.

**RECOMMENDATION No. 1:** That the Minister extend the remaining period of FMA 501200 by a further term of five consecutive years to March 31st, 2007.

RECOMMENDATION No. 2: That the Company and the Ministry jointly review the treatable status of lands cutover during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

RECOMMENDATION No. 3: That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.



**Five-Year Review**

**Boise Cascade Canada Limited**

**Manitou Forest  
Agreement 501300  
1982-1987**



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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Boise Cascade Canada Limited signed a Forest Management Agreement (FMA) on the Manitou Forest near Fort Frances on March 30th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Fort Frances and to ensure that the forests of the Manitou Forest are harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This fifth-year review was conducted on the Manitou Forest to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended by a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands (Retired) Spruce Falls Power and Paper Company Ltd., Committee Chairman
- Mr. R.A. Baxter, Director of Operations, Northern Ontario, Ministry of Natural Resources (Retired), and
- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3 TASKS OF THE REVIEW COMMITTEE

The Review Committee's assignment was to undertake a fair and objective review of Boise Cascade Canada Ltd. performance on the Manitou Forest during its first five-year term vis-a-vis its obligations under the forest management agreement and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management plans, operating and annual plans and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion records, silvicultural records and access road maps for adequacy and for conformity with the management plans and the ground rules,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (N.S.R.) lands in the annual reports with those required by provisions of the agreement,
- selecting and field inspecting harvest cuts and silvicultural projects typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and

- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraphs 6 (1), 10 (1), 11 (1) and 15 (1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared according to the timeframes specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on March 30th, 1983 and the management plan was due 12 months later. The plan was submitted on March 30th, 1984 and received final approval on November 16th, 1984.

The operating plan for the 1982 to 1987 period was due September 30th, 1983. An extension was given by the Ministry until November 30th, 1983. The plan was submitted prior to that date and was approved on April 27th, 1984.

For the first year of the agreement operations were carried out under Parcel 1, Schedule A, Licence 326700, and Part of Schedule C, Licence 326700. The annual plans for the remainder of the years under review were submitted by the due dates. The plans for 1983/1984 and 1984/1985 were returned to the Company for minor alterations and were resubmitted by the required dates. The plans for 1985/1986 and 1986/1987 did not require returning to the Company for alterations.

The Company has prepared a management plan for the second five-year term in accordance with the new and more complex Timber Management Planning Manual For Crown Lands in Ontario. The new plan was submitted prior to the due date of October 31st, 1986.

In conclusion, the Company met its management planning obligations for the 20-year management plan, the five-year operating plan, and the annual plans. The Ministry was complimentary to the Company on the quality of its management planning.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silviculture and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and road locations specified in the management documents. At least six deviations from the approved cutting areas were recorded and resulted in charges under the Crown Timber Act. Other deviations were considered to be inconsequential. Amendments to the plans were requested both in harvest allocation and road locations and were given approval by the Ministry. The levels of harvest and access construction during the five years were lower than those specified in the plans as portrayed in Figure 1.

Reasons for the low level of harvest are provided in Section 2.3 and for road construction in Section 2.5 of this report.

TABLE 1  
Summary of the Company's forest operations at Ministry expense  
for 1982-87.

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1982-87	FMA 501300 MANITOU FOREST BOISE CASCADE CANADA LTD.
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ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	11,654	

NATURAL REGENERATION	115	
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ARTIFICIAL REGENERATION		
PLANTING BAREROOT	57	
PLANTING CONTAINER	2,182	
SEEDING DIRECT	6,402	
SEEDING WITH SITE PREP	732	
TOTAL ARTIFICIAL	9,373	

TOTAL REGENERATION	9,488	
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TENDING		
CHEMICAL CLEANING/AERIAL	3,241	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
TOTAL TENDING	3,241	

SITE PREPARATION		
MECHANICAL	8,802	
CHEMICAL	583	
PRESCRIBED BURN	0	
TOTAL SITE PREPARATION	9,385	

MNR SILVICULTURE PAYMENTS	2,178,308
---------------------------	-----------

ROAD CONSTRUCTION	KILOMETRES	DOLLARS
PRIMARY	59.5	
SECONDARY	48.6	
TOTAL CONSTRUCTION	108.1	3,520,423

ROAD MAINTENANCE	257.4	114,900
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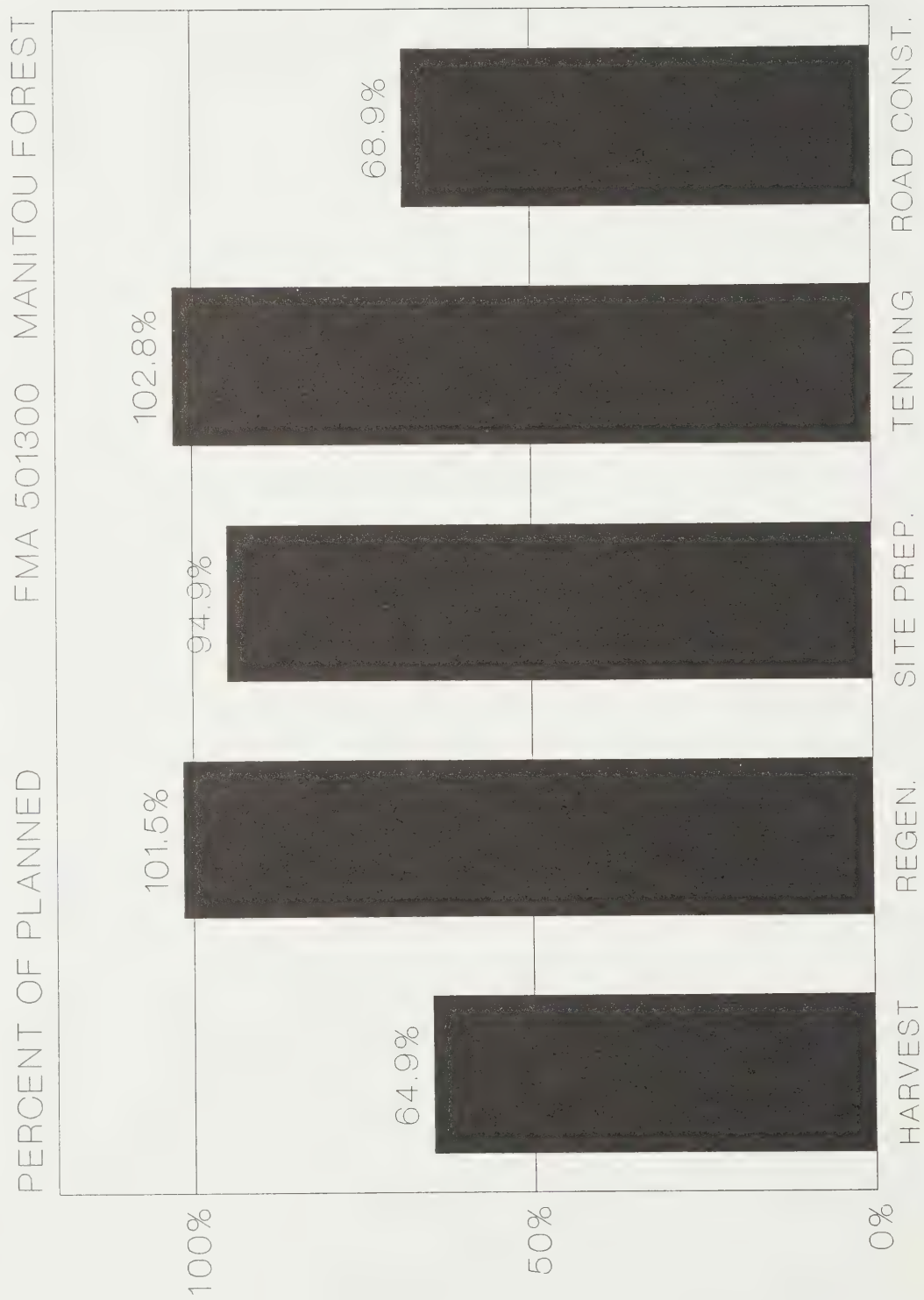
MNR TOTAL ROAD PAYMENTS	3,365,323
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TOTAL PAYMENTS	5,543,631
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N.B. This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest Management Activities were also conducted by MNR, at additional expense.



FIGURE 1: COMPARISON OF OPERATING PLAN VS ACTUAL



## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on the discussions held with Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examination of the silvicultural records, its field inspections and its discussion with the designated Crown representative (D.C.R.) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. The ground rules do provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new silvicultural techniques were proposed by the Company in its annual plans and these were approved by the Ministry prior to implementation.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainings or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas were to be identified in the annual plan, prior to harvest if possible, and included as depletions in the annual report following harvest. To date, no areas have been classified as non-treatable on the Manitou Forest despite the fact that nearly 12,000 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them today will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut-over during the five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

#### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Any difference in hectares treated, number of trees planted, or kilometres of road constructed or maintained were reconciled between the Company representative and the D.C.R.

#### 2.2.4 THE PREPARATION OF THE NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules and to agree upon those ground rules on or before that expiry date. The committee notes that this obligation has been met and that the new ground rules were agreed to by March 31st, 1987.

#### 2.3 HARVEST LEVELS AND ALLOWABLE CUT

According to paragraph 20 (1) of the agreement, the Company has agreed to maintain its harvest level on the Manitou Forest at a level between 90% and 110% of the calculated allowable cut for each working group during each five-year term. The Company may request the Minister to authorize variations to those levels specified in the agreement.

Paragraphs 20 (3) and 20 (4) of the agreement provide for either remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to his needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a forest management agreement.

The Company met its harvesting obligations in the Balsam Fir working group as harvesting was concentrated in areas being decimated by the spruce budworm. However it did not meet its obligations in the remaining working groups during its first five-year term. The level of undercut was evident in some of the working groups by mid-term but no request for variation of the 90% harvest was made to the Minister. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable cut, for all working groups combined.

The Company failed to utilize its planned level of harvest because of reduced mill production as a result of a reduction in market demand for its products.

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

## 2.4 N.S.R. OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest N.S.R. lands at the rate of 5% of class 2 and 3 N.S.R. lands annually. This amounts to 589 ha in the five-year term under review. The Company completed 5869 ha or 10 times

FIGURE 2: COMPARISON OF ALLOWABLE CUT, ALLOCATION, AND HARVEST





its obligated commitment according to the agreement. This level of achievement results in part from the crediting of the treatment of other unregenerated backlog not included in the original N.S.R. survey. The Company is to be commended for the initiative it has shown in putting N.S.R. lands back into production as seen in Figure 3.

**RECOMMENDATION:** That the Minister acknowledge the fulfilment of the Company's N.S.R. treatment obligations for the entire period of the 20-year agreement.

## 2.5 ROAD CONSTRUCTION

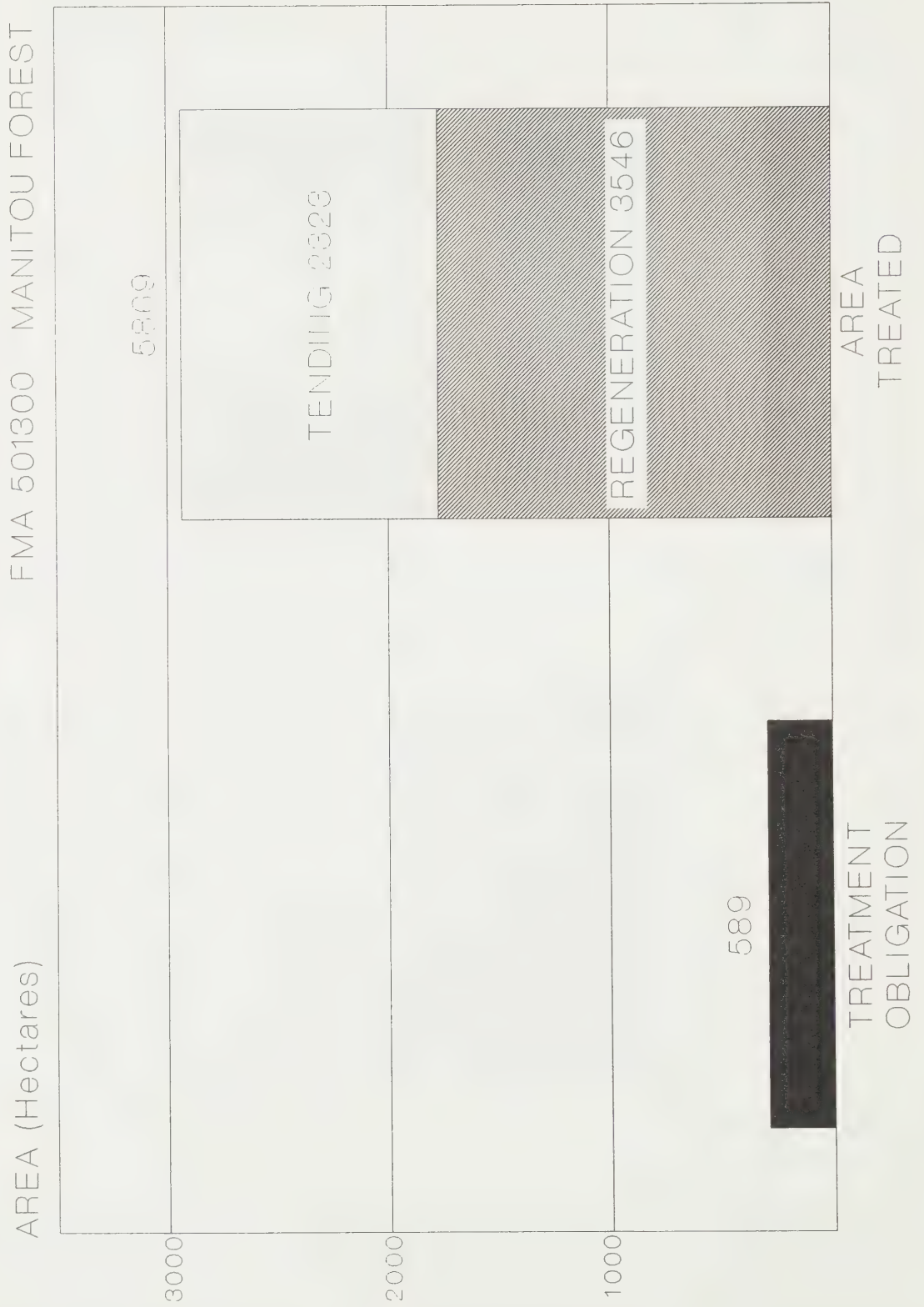
Paragraph 31 of the agreement provides for the Minister to pay for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

On the Manitou Forest most primary roads had already been built prior to the FMA agreement. New construction included a primary road extension to the Cedar Narrows road and secondary roads off Highway 502. Completed roads are inspected jointly by the Ministry district senior operations technician and a Company representative prior to acceptance for final payment. The Company had constructed its roads to standards higher than those specified in Schedule "E" (e.g. primary road load capacity 160,000 lbs. vs. the Schedule "E" requirement of 158,000 lbs.; secondary road minimum travel surface 16 feet vs. 13 feet). In no case during the term under review has a road been judged to be substandard.

Figure 1 shows that the level of road construction was lower than that planned. Reasons for the reduction included (1) reduced harvest related to mill cutbacks, (2) decision not to build roads



FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1982-87



beyond current cut, (3) in some cases additional roads built as unfunded tertiary roads rather than funded secondary roads and (4) delays in operations due to problems with third party agreements.

## 2.6 COMPANY RECORDS

The committee found that the Company's records concerning the documentation of submission, resubmission, approvals and amendments of its management documents were kept in a manner that allowed for easy reconciliation with the requirements of the agreement. Silvicultural records are catalogued by numbers assigned to management blocks marked on mylar maps. Each treatment is detailed on an appropriate form and the forms collected into record books. All records were readily available. In 1985 the Company began a new system of electronic record keeping and is now transferring its records to this format.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires the agreement holder to prepare an annual report in accordance with the Forest Management Manual. The committee found the Company had submitted an annual report by the due date in accordance with the manual in each year of the agreement. No significant errors were found by the D.C.R. and no reports were returned for corrections - an admirable record. The area of silvicultural treatment reported was verified by the review committee by planimetry of sample projects. It was found to be accurate for the last two years, but slightly to considerably conservative during the first three years.

## 2.8            INTEGRATION WITH OTHER FOREST USERS

Section 8 of the ground rules, entitled Management For Other Uses, details how other forest users were to be identified and accommodated during the first five-year term. It was the responsibility of the Ministry to identify these areas and make prescriptions to accommodate other forest users. The Company was to implement the Ministry's prescriptions, so as to protect those other forest values.

The committee was impressed with the sincerity of Company efforts to accommodate other forest users. The many lakes in the area provided opportunities for tourism, and the Company has not only attended tourist associated meetings but also has become quite comfortable in direct negotiations with individual outfitters. Many tourism concerns occur on the Manitou Forest F.M.A. area, thus individual negotiations have been frequent. In one instance the Company agreed with an individual operator to do as much cutting as possible during winter and not to cut during the high tourist season. The tourist operator in return agreed not to fly in guests after a specified date so that cutting could proceed. This kind of direct negotiation has minimized conflicts. The Company has worked hard at eliminating inadvertent infractions of modified management area (MMA) prescriptions: much time has been spent explaining regulations to contractors so that they will understand the importance of following them. The result has been a record of very few violations of regulations related to MMA's or to additional regulations protecting other users.

The review committee was very pleased with the spirit of cooperation that exists between staff of the Ministry and the Company. This cooperation routinely results in the swift and amicable resolution of land use issues in the management of the

Manitou Forest. The Company and Ministry staff credited their harmonious relationship to:

- the staff continuity of both parties (especially that of the D.C.R.)
- the knowledge and familiarity of both parties with field conditions on the forest, and
- a mutual respect for each others professional integrity.

Any potential negative impacts of roads on other users have been minimized by following Ministry guidelines concerning road location. Water crossings were few due to the localized nature of the small drainage areas. No bridges were built on F.M.A. roads and all culverts were small and well handled.

The block system of management has greatly simplified the process of accommodating the concerns of other forest users. Most moose and deer habitat requirements were met by reducing the size and by increasing the dispersion of clearcut. In only a few cases, where larger blocks were cut due to the presence of overmature timber, travel corridors of standing trees were required to be left for moose and deer through the cut area. Nests of eagles, ospreys and herons were located and surrounding timber stands set aside from cutting, according to Ministry guidelines.

Few mining problems have occurred.

### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion (allowable cut) which was calculated for the Manitou Forest at the beginning of the five-year term under review. It indicates that the level of harvest and other forest depletions was well below the maximum

Table 2

MANTOU FOREST FMA 501300

Comparison of the 1982-1987 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1987-1992 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

Working Group/or Forest Unit	1982-1987 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1987-1992 Maximum Allowable Depletion
Spruce X	2,937	1,446	1,166		2,832
Spruce 2	2,446	1,886	1,519		2,290
Balsam Fir	3,212	2,455	2,011		2,912
Jack pine	8,055	5,474	4,632	N/A	7,941
Red pine	96	0	0		32
White pine	585	135	122		594
Other conifer	734	16	15		754
Poplar	13,302	2,307	1,868		13,440
White birch	4,988	415	351		5,206
Total	36,355	14,134	11,684	10,956	36,001

allowed under sustained yield management for all working groups. Ninety-four percent of the area harvested during the five years received a regeneration treatment, the remaining area is fresh cutover. There were no areas assessed as free-to-grow.

The Company is to be commended for its initiative at treating such a high percentage of harvested land. However the review committee observed some regeneration failures that occurred in the early years of the agreement but were satisfied with the results of the past few years. The Company is currently



retreating these understocked areas at its own expense and has an aggressive regeneration program to ensure acceptable stocking in the future. It was obvious that the Company is deeply committed to regenerating cutovers on the Manitou Forest.

#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with the Manitou Forest FMA 501300 or with regard to the Ministry's administration of the agreement.

The following are the concerns as expressed by senior management of Boise Cascade Canada Limited.

##### 1. Nursery Stock Availability

The Company is very concerned about the low numbers of nursery stock currently made available for regeneration programs on the Manitou and Seine River Forests. These F.M.A.'s currently receive sufficient stock to treat only 20% of the area harvested. Recently approved Timber Management Plans (1987-92) indicate that 40-45% of the area harvested should be planted to properly treat the component of "high competition" mixed wood sites found on these forests.

##### 2. Substandard Planting Stock

In recent years, the stock received by the Company has often fallen short of the stock parameters stipulated in the ground rules. These deficiencies are often made known to the Company less than a month before planting is to begin. Under such circumstances, planting contracts are already in place, areas are site prepared and the Company has little option but accept the substandard stock, if it is healthy. In accepting stock under these circumstances, the ground rules indicate that the Company assumes all retreatment



costs if failure occurs. The Company feels that where Ministry nurseries produce substandard stock, the Ministry should assume all retreatment costs where later failure can be attributed to initial stock quality.

3. Crown Management Unit (C.M.U.) Programs

The Boise Cascade Canada Fort Frances mill depends on Crown Management Units in its wood supply area for approximately 35% of its total mill volume on an annual basis. In recent years, as regeneration programs on the Manitou and Seine River Forests have expanded to required levels, the Crown Unit programs have been severely constrained. For example, in 1987, F.M.A. aerial tending programs were fully funded while similar programs on adjacent Crown Units were not funded. The Company is very concerned with this trend and urges the Ministry to provide for the necessary levels of forest regeneration on both Crown and F.M.A. units to sustain long-term wood supplies in the Fort Frances area.

5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review and notes that the Company and the Ministry have agreed to a management plan and ground rules for the second five-year term. The committee was impressed by the amount of effort put forth by the Company with regard to its silvicultural program and with the commitment of the Company and its staff towards a successful Manitou Forest.

**RECOMMENDATION NO. 1:** That the Minister extend the remaining period of FMA 501300 by a further term of five consecutive years to March 31st, 2007.

RECOMMENDATION No. 2: That the Company and the Ministry jointly review the treatable status of lands cutover during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

RECOMMENDATION No. 3: That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the annual plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

RECOMMENDATION No. 4: That the Minister acknowledge the fulfilment of the Company's N.S.R. treatment obligations for the entire period of the 20-year agreement.



# **Five-Year Review**

**Waferboard Corporation Limited**

**Romeo Malette Forest  
Agreement 501400  
1982-1987**



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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Waferboard Corporation Limited signed a Forest Management Agreement (FMA) on the Romeo Malette Forest located near Timmins on February 21st, 1983. The purpose of that agreement was to provide for a continuous supply of forest products to the wood processing plants of the Company at Timmins and to ensure that the forests of the Romeo Malette Forest are harvested and regenerated to provide successive crops of timber on a sustained yield basis.

This fifth-year review was conducted on the Romeo Malette Forest to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended by a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. R. A. Baxter, Director of Operations, Northern Ontario, Ministry of Natural Resources (Retired), Committee Chairman,
- Mr. G. W. Bell, R.P.F., Vice-President Woodlands, Spruce Falls Power and Paper Company Ltd. (Retired), and
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3            TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of the Waferboard Corporation Limited performance on the Romeo Malette Forest during its first five-year term vis-a-vis its obligations under the forest management agreement, and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management plans, operating and annual plans and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion records, silvicultural records and access road maps for adequacy and for conformity with management plans and the ground rules,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (N.S.R.) lands in the annual reports with those required by provisions of the agreement,
- selecting and field inspecting harvest cuts and silvicultural projects typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and

meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraphs 6(1), 10(1), 11(1), and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on February 21st, 1983 and the management plan was due 12 months later. The plan was submitted by the Company on March 19th, 1984 after receiving a one month extension to the original due date. The plan was found to be incomplete and was returned to the Company for alterations. The final plan was submitted by the Company one month late and it received final approval on September 30th, 1985.

The operating plan for the 1982 to 1987 period was due August 21st, 1983. An extension to October 1st, 1983 was given for the submission of the plan and it was submitted on November 18th, 1983. The workload requirements of the Company in establishing its forestry program at the same time as preparing the operating plan resulted in the delay in the plan submission. Alterations were requested by the Ministry and due dates for submission of the altered plan were set. These dates were met by the Company.

As the agreement was not signed until February 21st, 1983 there was no annual plan for the 1982/83 year. The annual plan for the second year was submitted February 22nd, 1983. The plans for the

third and fifth year were submitted on time while the plan for the fourth year was submitted December 12th, 1984. The annual plans for 1984/85, 1985/86 and 1986/87 were returned to the Company a number of times for alterations and corrections. Final approvals were given on March 2nd, 1985, May 10th, 1986 and March 25th, 1987 respectively.

The Company has prepared a management plan for the second five year term in accordance with the new and more complex Timber Management Planning Manual For Crown Lands In Ontario. The new plan was submitted by the due date of October 1st, 1986.

In conclusion the Company was found to have been late in meeting its management planning obligations for the 20-year management plan, the five-year operating plan and for the 1985/86 annual plan, and to have submitted annual plans which required a number of resubmissions before satisfying the designated Crown representative (D.C.R.).

**RECOMMENDATION:** That the Company initiate a review of its management planning policies and procedures to ensure that all obligations under the agreement and all requirements of the Timber Management Planning Manual For Crown Lands In Ontario, especially due dates and data, are met.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silviculture and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and

TABLE 1

Summary of the Company's forest operations at Ministry expense for 1982-87.

FMA EXPENDITURE AND ACCOMPLISHMENT REPORT FOR THE FIVE YEAR TERM 1982-87	FMA 501400 ROMEO MALETTE FOREST WAFFERBOARD CORPORATION LTD.
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ACTIVITY	HECTARES	DOLLARS
HARVEST CUT	12,018	
NATURAL REGENERATION	2,993	
ARTIFICIAL REGENERATION		
PLANTING BAREROOT	2,413	
PLANTING CONTAINER	1,426	
SEEDING	0	
TOTAL ARTIFICIAL	3,839	
TOTAL REGENERATION	6,832	
TENDING		
CHEMICAL CLEANING/AERIAL	2,280	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	77	
TOTAL TENDING	2,357	
SITE PREPARATION		
MECHANICAL	4,718	
CHEMICAL	305	
PRESCRIBED BURN	1197	
TOTAL SITE PREPARATION	6,220	
MNR SILVICULTURE PAYMENTS		2,769,136
ROAD CONSTRUCTION	KILOMETRES	DOLLARS
PRIMARY	195.4	
SECONDARY	169.4	
TOTAL CONSTRUCTION	364.8	11,287,380
ROAD MAINTENANCE	542.8	242,068
MNR TOTAL ROAD PAYMENTS		11,529,448
TOTAL PAYMENTS		14,298,584

N.B. This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest Management Activities were also conducted by MNR, at additional expense.



the road locations specified in the management documents. The only deviations were considered to be of a minor and inconsequential nature. Amendments to the plans were requested both in harvest allocations and road locations and were given approval by the Ministry. The levels of harvest and access construction during the five years were lower than those specified while the level of silvicultural activity was above those specified in the plans, as portrayed in Figure 1. Reasons for the low level of harvest are provided in Section 2.3 and for road construction in Section 2.5 of this report.

## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on the discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURE OPERATIONS WITH THE GROUND RULES

The committee's examination of the silvicultural records, its field inspections and its discussion with the D.C.R. all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. The ground rules do provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new silvicultural techniques were proposed by the Company in its annual plans and these were approved by the Ministry prior to implementation.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat.

FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



Non-treatable areas were to be identified in the annual plan, prior to harvest if possible, and included as depletions in the annual report following harvest. To date no areas have been classified as non-treatable on the Romeo Malette Forest despite the fact that over 12,000 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them today will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut-over during the five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1988-89 annual report.

#### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Any differences in hectares treated, number of trees planted, or kilometers of road constructed or maintained were reconciled between the Company representative and the D.C.R. prior to the submission of the invoice.

#### 2.2.4 THE PREPARATION OF THE NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules and to agree upon those ground rules on or before that expiry date. The committee notes that this obligation was not met. Preparation of the new ground rules

commenced May 6th, 1986, well in advance of the required date, however, they were not agreed to by March 31st, 1987, the expiry date of the existing ground rules. The Ministry agreed to the ground rules on May 21st, 1987 while the Company sent a letter of agreement to the Ministry on June 24th, 1987.

### 2.3 HARVEST LEVELS AND ALLOWABLE CUT

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest level on the Romeo Malette Forest at a level between 90% and 110% of the calculated allowable cut for each working group during each five-year term. The Company may request the Minister to authorize variations to those levels specified in the agreement. Paragraphs 20(3) and 20(4) of the agreement provide for either remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to his needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a forest management agreement.

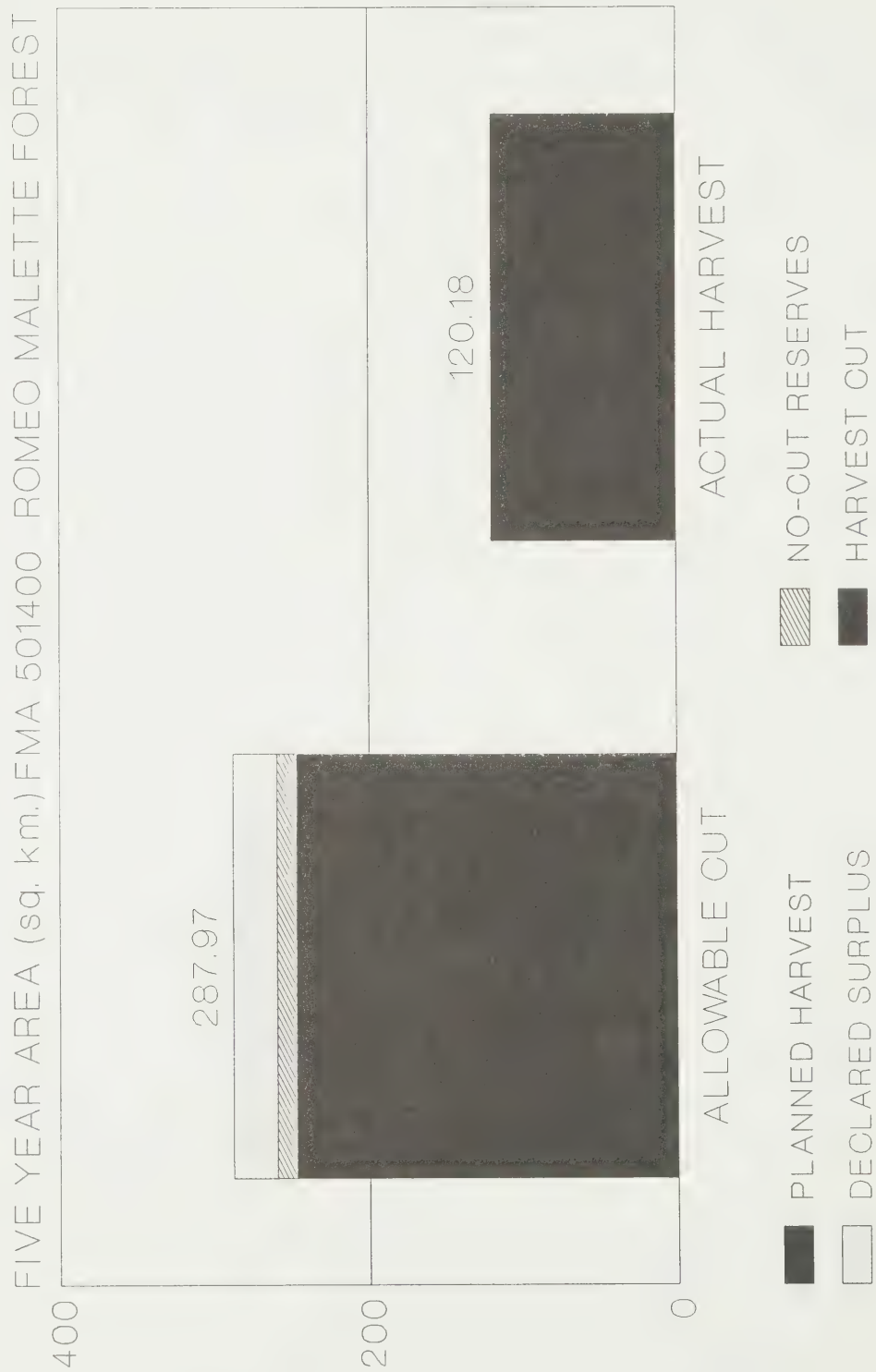
The Company did not meet its harvest obligations in any of the working groups during its first five-year term. The level of undercut was evident by mid-term but no request for variation of the 90% harvest requirement was made to the Minister. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable cut, for all working groups combined.

There are a number of reasons for the Company's failure to utilize its planned level of harvest.

These include:

- a sawmill strike for a four-month period in 1983, coupled with soft lumber markets and the inability to sell all their chips, resulted in the sawmill running

FIGURE 2: COMPARISON OF ALLOWABLE CUT, ALLOCATION, AND HARVEST





at 72% of the planned five-year production,

- the harvesting of poplar was concentrated in very high yield stands which was the major reason for the area undercut of the poplar working group, as volume demand was close to forecast, and
- harvesting was reduced within the agreement area in order for the Company to meet a prior commitment under a third party agreement with Spruce Falls Power and Paper Company Limited on the Gordon Cosens Forest.

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year term to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

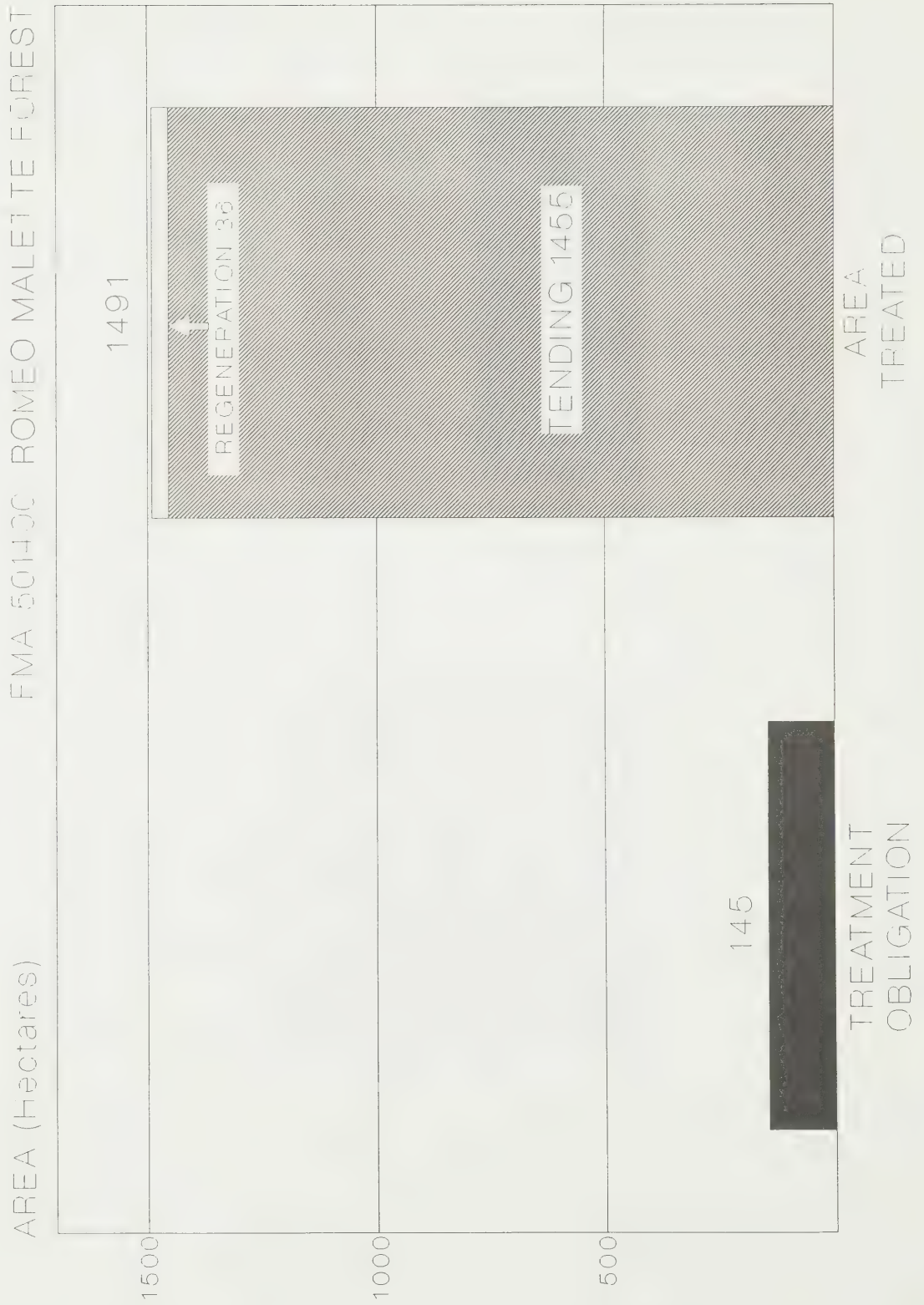
#### 2.4 N.S.R. OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest N.S.R. lands at the rate of 5% of class 2 and 3 N.S.R. lands annually. This amounts to 145 ha in the five-year term under review and 581 ha for the entire 20-year period of the agreement.

The Company, on its own initiative, elected to accelerate the rate of N.S.R. treatment and has to date reforested 1491 ha or 10 times its obligation. This level of achievement results in part from the crediting of the tending treatment of Ministry plantations not included in the original survey. The Company is to be commended for the initiative it has shown in putting N.S.R. lands back into production as seen by Figure 3.



FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1982-87



**RECOMMENDATION:** That the Minister acknowledge the fulfillment of the Company's N.S.R. treatment obligations for the entire period of the 20-year agreement.

## 2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

On the Romeo Malette Forest, roads are inspected jointly by the Company representative and a Ministry Representative prior to acceptance for final payment. A few kilometres of road were found to be below standard on initial inspection in the early years of the agreement, but as soon as this was pointed out by the Ministry representative, the Company took corrective action. In the last three years, roads have been built to the specified standards.

During the term under review, the Company built fewer roads than projected in the five-year operating plan (Figure 1). This shortfall was the result of non-requirement due to reduced harvest cut, optimistic initial forecasts of road requirements, and allocation of limited funds by the Ministry. When final funding levels were received each year, the Company usually met and, as supplementary funding became available, frequently exceeded planned levels.

A comparison of planning maps and actual road locations revealed very close agreement. One large change in location, for strategy reasons (to complete a loop) had been approved in the annual plan for that year. On two occasions planned primary roads were stopped short and built as secondary roads to avoid crossing

rivers that were popular with recreationists. Several small changes avoided rock outcrops, took advantage of eskers or preserved areas around trappers cabins. In each of these cases, the deviations were approved by the Ministry in a plan amendment.

## 2.6 COMPANY RECORDS

The committee found that the Company's records concerning the documentation of submission, resubmission, approvals and amendments of its management documents were not kept in a manner that allowed for easy reconciliation with the requirements of the agreement. In most cases the information required was found but it took considerable time and effort to locate some of the information requested. The committee encourages the Company to recognize the importance of documenting its performance of agreement obligations and to improve its correspondence files in this regard.

Silvicultural projects on a designated area are first recorded on mylar maps and these are used to track all subsequent activities. Recalculations of area for one location tallied exactly with invoices and with the annual report but not with the silvicultural record book. This book contains records of all silvicultural projects recorded by project number and accompanied by printed maps from the master mylar. Several minor errors were detected. All information was available, though difficult to analyze. Aspen, an important species for this Company, regenerates naturally following clearcutting and, thus, large areas have been left untreated for natural regeneration. However, the silvicultural records of the Company do not include these areas.

**RECOMMENDATION:** That the areas for which natural regeneration is deemed adequate according to the ground rules be identified and recorded using the same system as for areas for artificial means.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires the agreement holder to prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year proceeding.

The committee found that the Company submitted annual reports each year at about the right time in accordance with the manual (documentation of exact dates was not available in either Company or Ministry records). In most cases, communication between the Company and the D.C.R. prevented discrepancies. No written report was made.

**RECOMMENDATION:** That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 8 of the ground rules, entitled Withdrawals and Reserves, details how other forest users were to be identified and accommodated during the first five-year term. It was the responsibility of the Ministry to identify these areas and make prescriptions to accommodate other forest users. The Company was to implement the Ministry's prescriptions, so as to protect those other forest values.

The Romeo Malette Forest includes part of the City of Timmins and hence other users are numerous. Commercial tourist operators, cottage owners, mining companies, anglers, hunters, and trappers all use the landbase extensively. The Waferboard Company has learned to be exceptionally sensitive to the needs of these other users.



With so many differing interests some irritations are inevitable, but the Company has gone far beyond the requirements of the agreement in attempting to resolve as many problems as possible. Examples include respecting reserves around cottage areas and around lakes used for tourism, accepting Ministry guidelines concerning modified management areas (M.M.A's) designed to protect fisheries values, changing cutting patterns to favour moose, meeting with mining companies to resolve difficulties and meeting with the local trappers association and with individual trappers to solve problems. The good communication between the Company and local trappers has been beneficial both ways: areas around trappers cabins have been left uncut and in some cases trappers have provided useful advice to the Company.

Fish and wildlife values also received consideration. In one case, where cutters found an active owl nest, the surrounding trees were left untouched. After an instance of a ribboned line being moved by contract cutters, all boundary lines were painted to ensure that M.M.A.'s remain intact. At bridges and culverts, fisheries values were protected by good placement, use of coarse gravel fill and, in one instance, planting with grass. Altogether the Company's accommodation of other users is most commendable.

### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion (allowable cut) which was calculated for the Romeo Malette Forest at the beginning of the five-year term under review.

It indicates that the level of harvest and other forest depletions was well below the maximum allowed under sustained yield management for all working groups. Seventy-nine percent of the area harvested during the five-year operating period received a regeneration treatment; the remaining area is either intended

Table 2

ROMEO MALETTE FOREST FMA 501400

Comparison of the 1982-1987 Maximum Allowable Depletion, total depletion, harvest and regeneration activities and the 1987-1992 Maximum Allowable Depletion. (Ministry Phase-In operations included.)

Working Group/or Forest Unit	1982-1987 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	*1987-1992 Maximum Allowable Depletion
Spruce	7,924	3,327	3,327		9,481
Balsam Fir	2,891	133	133		3,086
Jack pine	4,688	2,892	2,892	N/A	4,864
Other conifer	1,351	271	271		1,490
Poplar	7,311	2,625	2,625		6,099
White birch	4,632	2,770	2,770		6,527
Total	28,797	12,018	12,018	9,518	31,547

\* M.A.D. based on average-age calculations

for natural regeneration or is fresh cut-over. The area of regeneration assessed as free-to-grow during the term under review was 1821 ha; many areas currently being treated will become free-to-grow in the next five-year period.

The review committee observed a major commitment by the Company to regenerate the Romeo Malette Forest. The Company has been tailoring their forest management treatments to improve growth and regeneration to meet the local conditions and should be complemented for their efforts in this regard.



#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with F.M.A. 501400 or with regard to the Ministry's administration of the agreement. Senior management of Waferboard Corporation, though generally very satisfied with the working of the F.M.A., expressed concerns in the following areas:

- The Company on occasions has accepted planting stock of very questionable quality at the urging of the Ministry with no retreatment exemption for plantation failure. Refusal of planting stock can result in idle planting crews awaiting a replacement shipment as well as the Company not meeting its regeneration obligation if no replacement stock is available. Sub-standard bareroot jack pine planting stock from Ministry nurseries has been the problem. A procedure for accepting sub-standard stock without penalty is required.
- The Company believes that the present F.M.A. arrangement for payment of tending treatments before stands are declared free-to-grow (F.T.G.) should also apply to stands after they achieve F.T.G. status. The current stumpage reduction incentive contained in paragraph 23 of the agreement provides insufficient incentive for tending F.T.G. stands.
- The Company expressed its satisfaction with having the same D.C.R. throughout the five-year term and hoped this arrangement would continue for the next five years.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee is satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review and notes that the Company and the Ministry have agreed to a management plan and ground rules for the second five-year term. The committee was impressed with the amount of effort put forth by the Company in its silvicultural program and with the commitment of the Company and its staff towards successful management of the Romeo Malette Forest.

RECOMMENDATION NO.1: That the Minister extend the remaining period of FMA 501400 by a further term of five consecutive years to March 31st, 2007.

RECOMMENDATION NO. 2: That the Company initiate a review of its management planning policies and procedures to ensure that all obligations under the agreement and all requirements of the Timber Management Planning Manual For Crown Land In Ontario especially due dates and data are met.

RECOMMENDATION NO. 3: That the Company and the Ministry jointly review the treatable status of lands cutover during the five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any area mutually agreed to be non-treatable in the 1988-89 annual report.

RECOMMENDATION NO. 4: That in the event that the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

RECOMMENDATION NO. 5: That the Minister acknowledge the fulfillment of the Company's N.S.R. treatment obligations for the entire period of the 20-year agreement.

RECOMMENDATION NO. 6: That the areas for which natural regeneration is deemed adequate according to the ground rules be identified and recorded using the same system as for areas for artificial means.

RECOMMENDATION NO. 7: That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.





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# Forest Management Agreements

## Fourth Five-Year Review 1983-1988

Government  
Publication



Ontario

Ministry of  
Natural  
Resources

Lyn McLeod  
Minister





# **Forest Management Agreements**

**Fourth Five-Year  
Review  
1983-1988**

**October 1989**



**Ontario**

**Ministry of  
Natural  
Resources**

Lyn McLeod  
Minister

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Printed in Ontario, Canada

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## INTRODUCTION

Forest Management Agreements (FMAs) came into being in Ontario through an amendment to the Crown Timber Act in 1979. The Act as amended provided that the Minister of Natural Resources, subject to the approval of the Lieutenant-Governor-in-Council, could enter into Forest Management Agreements with private sector companies.

The FMAs, which cover a specific section of Crown land, replace existing licensing arrangements with an Agreement which requires the companies to manage the forests in the FMA area on a sustained-yield basis. In addition to harvesting, the FMA holder is responsible for all planning, regeneration and other silvicultural activities necessary for proper forest management, including the construction of access roads.

The Ministry of Natural Resources provides certain funding, and must approve the required management documents submitted by the companies. The Agreements are for 20 years, but Section 15 provides that every five years, the Minister must evaluate how the company has carried out its obligations under the Agreement and the associated management documents. If satisfactory, the FMA is renewed for another five years. This is called an "evergreen" arrangement.

In 1985, the Minister released the first five-year reviews of the first five FMAs in the province. A report on the relationship between harvest and growth, including regeneration, of timber for the five FMA areas was tabled in the Ontario Legislature, as required by legislation. All five FMAs were renewed for another five-year term.

In 1986, the Minister released the second five-year review. A report on the relationship between harvest and growth, including regeneration, was tabled in the Ontario Legislature, as required by legislation. The Abitibi-Price Inc. Spruce River Forest FMA and the Domtar Forest Products Lake Nipigon Forest FMA were extended for another five-year term. The Great West Timber Black River Forest FMA was not initially extended but has since been extended for another five-year term.

In 1988, the Minister released the third five-year review for FMAs covering the period from 1982 to 1987. A report on the relationship between harvest and growth, including regeneration, for the five FMAs was tabled in the Ontario Legislature, as required by legislation. All five were recommended for extension for another five-year term.

As of January 1989, there were 30 FMAs in the province, covering a total of 177,821 square kilometres. This is 69 per cent of the 257,244 square kilometres of licensed forest in the province. The location of these Agreements is shown on the following page.

In 1988, the five-year reviews on four more FMAs were conducted and are the subject of this report. The Agreements are:

1. Domtar Inc., White River Forest  
- FMA 501500
2. Quebec and Ontario Paper Company Limited, Cochrane Forest  
- FMA 501600
3. Quebec and Ontario Paper Company Limited, Gardiner Forest  
- FMA 501700
4. Quebec and Ontario Paper Company Limited, Timmins Forest  
- FMA 501800



This report summarizes the various forest operations carried out by the five companies and presents the recommendations of the committee which conducted the reviews. The role of the review committee was to assess the commitment of the companies to their obligations as identified in the Agreements.

The obligations are:

- a) Submission dates for management and operating plans, annual work schedules and reports are to be established and met;
- b) harvest: may not exceed the Maximum Allowable Depletion (the annual allowable cut) and companies may be liable for damages following the fifth year if their planned requirements are not harvested;
- c) obligations for treatment of Not Satisfactorily Regenerated (NSR) lands are to be met;
- d) compliance with ground rules which indicate the silvicultural treatments on a site-specific basis;
- e) road construction;
- f) compliance with other forest users.

The review committee was comprised of three independent auditors including retired industry and government members and a representative from the academic field. The committee assessed the commitment of the Companies to their FMA obligations, reviewed written records and conducted field inspections to assess company performance.

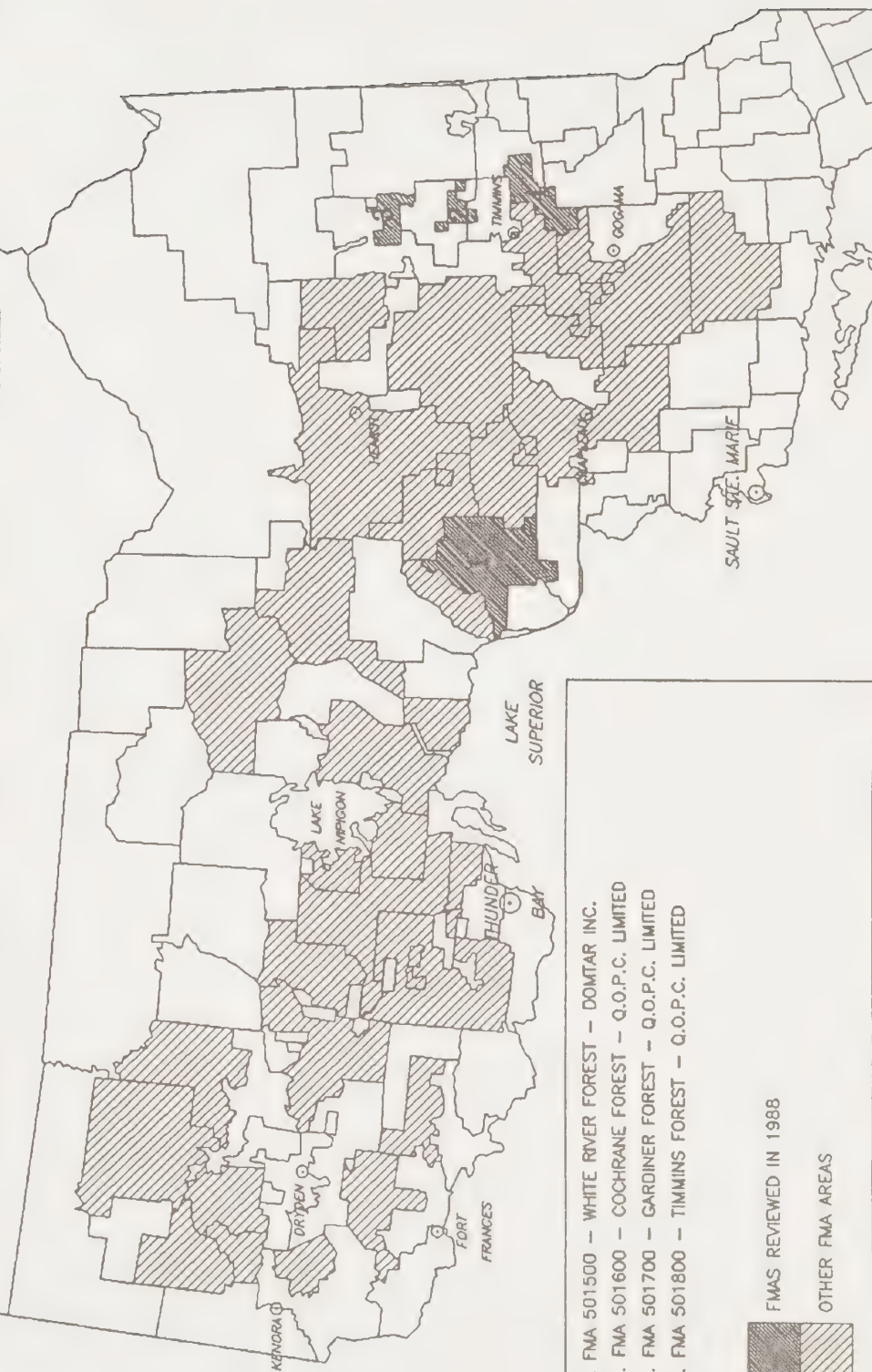
Activities on the FMA areas during the five-year periods prior to and after the agreements were signed are compared in Table 1. It shows that while the actual harvest increased 23%, regeneration increased 141%, tending increased 179% and site preparation increased by 170%.

**TABLE 1**

Relationship between harvest and silviculture activities on FMAs 501500 through 501800, for a five-year period before and after entering into Agreements.

Activity	By Ministry Before FMA  (Hectares)	By Companies and Ministry during FMA	% Change
Harvest	21,237	26,125	23
Regeneration	7,032	16,937	141
Tending	4,274	11,925	179
Site Preparation	6,572	17,790	170

# FOREST MANAGEMENT AGREEMENTS 1988 FIVE YEAR REVIEW



The Agreements have a requirement for the companies to treat Not Satisfactorily Regenerated (NSR) lands which existed at the signing of the FMA. In all instances, the obligations were substantially exceeded (Table 2).

**TABLE 2**

Not Satisfactorily Regenerated (NSR) obligations and treatment for Four FMA areas for 1983-88.

Company and Forest Name	NSR Obligation to Date	(Hectares)	NSR treated to Date
Domtar Inc. White River Forest FMA 501500	776		1,680
Quebec and Ontario Paper Company Ltd. Cochrane Forest FMA 501600	1,233		2,597
Quebec and Ontario Paper Company Ltd. Gardiner Forest FMA 501700	1,707		4,139
Quebec and Ontario Paper Company Ltd. Timmins Forest FMA 501800	2,068		4,043

The committee also reviewed company concerns about the FMA arrangements and made a number of recommendations to address issues specific to each FMA.

In all four cases, the review committee recommended that the Agreements be extended for another five-year term pending finalization of the next terms ground rules. These ground rules have subsequently been agreed to in all cases.

**FIVE-YEAR REVIEW  
DOMTAR INC.**

**WHITE RIVER FOREST  
AGREEMENT 501500  
1983 - 1988**



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## 1. INTRODUCTION

### 1.1 Purpose of the Review

The Minister of Natural Resources and Abitibi Price Inc. signed a Forest Management Agreement (FMA) on the **WHITE RIVER FOREST**, surrounding the improvement district of White River, on June 16th, 1983. The purpose of that agreement was to provide a continuous supply of forest products for the wood processing plants of the Company at White River and Sault Ste. Marie and to ensure that the **WHITE RIVER FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

On November 28th, 1984 the Minister of Natural Resources approved the transfer of the **WHITE RIVER FOREST** from Abitibi-Price Inc. to Domtar Inc. hereafter referred to as the Company. With this transfer, Domtar Inc. assumed full responsibility for the FMA with the purpose of providing a continuous supply of forest products to the plant at White River.

This review of the first five consecutive years of the agreement was conducted on the **WHITE RIVER FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

### 1.2 The Review Committee

The review was carried out by a committee of four, engaged by the Ministry of Natural Resources for this purpose. The four committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R.A. Baxter, Director of Operations, Northern Ontario (Retired)\*, Ministry of Natural Resources

NOTE: Mr. Baxter was involved in the initial review of documents and records as well as the editing of this final report. Mr. Baxter was unable to attend the review sessions with the Company in White River and was replaced by Mr. Waldram.

- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University
- Mr. J.M. Waldram, FMA Coordinator, Ministry of Natural Resources

### 1.3 Tasks of the Review Committee

The review committee's assignment was to undertake a fair and objective review of Domtar Inc. performance on the **WHITE RIVER FOREST** during its first five-year term vis-à-vis its obligations under forest management agreement and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement.

The review was conducted by:

- examining the management, operating and annual plans and the annual reports prepared by the Company with regard to their submissions dates and their acceptability to the Ministry.
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement.
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with those levels required by provisions of the agreement.

- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules.
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations.
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## **2. PROCEDURES AND FINDINGS**

### **2.1 MANAGEMENT PLANNING**

#### **2.1.1 THE PREPARATION OF PLANS**

Paragraph 6(1), 10(1), 11(1), 15(1) and 16(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans.

These plans must be prepared and submitted to the Ministry of Natural Resources according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The Forest Management Agreement was signed on June 16th, 1983. The operating plan for the 1983 to 1988 period was due December 16th, 1983 and was submitted on time, December 14th, 1983. The plan was resubmitted on March 9th, 1984 and received approval June 29th, 1984.

The management plan was due on June 16, 1984. The first draft of the plan was submitted by Abitibi-Price Inc. prior to the due date on May 18th, 1984. The plan was subsequently returned to the Company for required alterations and the final plan resubmitted on November 30th, 1984. It was noted, however that the Ministry of Natural Resources did not give final approval to the management plan until October 29th, 1985. This delay was caused by the transfer of the agreement area and saw-mill to Domtar Inc., January 2nd, 1985. Domtar requested to have the plan reviewed by their staff. No changes were requested by Domtar and the plan was subsequently approved as originally resubmitted by Abitibi-Price.

For the first year of the agreement 1983-1984, Abitibi-Price Inc. operated under the annual plan which was prepared and approved for license 314200 prior to the signing of the agreement. All four succeeding annual plans prepared by Abitibi and Domtar were submitted on schedule. The 1987-1988 work schedule was returned to the Company and resubmitted promptly with alterations as requested by the Ministry.

A Timber Management Plan covering operations for the term (1988-2008) was prepared and submitted by the Company on October 1st, 1987. The plan, however, was not approved at the time of this review pending the resolution of issues related to the age-class allocations. The Company has been operating in 1988 under a contingency plan approved by the Ministry.<sup>1</sup>

In conclusion, although the plans have been submitted on schedule, there have been delays in approving the two management plans. The original management plan for the 1983-2003 period was delayed as a result of the Domtar acquisition of the White River Mill and FMA. Delay in the approval of the management plan for the 1988-2008 period resulted from the late identification of a major issue requiring resolution before plan approval. In the opinion of the review team, this delay may have been prevented had better communication between the MNR and the Company existed.

**RECOMMENDATION:** That the Company foresters and MNR planning team members attend Timber Management Plan training sessions together, well before preparation of the next Timber Management Plan revision in order to better address and resolve the problems and complexities of the Timber Management Planning process.

---

<sup>1</sup> The Timber Management Plan has subsequently been approved on November 23, 1988.

## **2.1.2 PLAN IMPLEMENTATION**

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.



**TABLE 1**

Summary of the Company's Forest Operations at Ministry Expense for 1983-88

**FMA EXPENDITURE AND  
ACCOMPLISHMENT REPORT  
FOR THE FIVE YEAR TERM****FMA 501500  
WHITE RIVER FOREST  
DOMTAR INC.**

ACTIVITY	HECTARES	DOLLARS
<b>HARVEST CUT</b>	<b>13,214</b>	
<b>NATURAL REGENERATION</b>	<b>167</b>	
<b>ARTIFICIAL REGENERATION</b>		
PLANTING CONTAINER	2,527	
SEEDING DIRECT	337	
TOTAL ARTIFICIAL	2,864	
<b>TOTAL REGENERATION</b>	<b>3,031(1)</b>	
<b>TENDING</b>		
CHEMICAL CLEANING/AERIAL	3,190	
TOTAL TENDING	3,190	
<b>SITE PREPARATION</b>		
MECHANICAL	3,931	
TOTAL SITE PREPARATION	3,931	
<b>MNR SILVICULTURAL PAYMENTS</b>		<b>\$ 1,434,877</b>
<b>ROAD CONSTRUCTION</b>	<b>KILOMETRES</b>	<b>DOLLARS</b>
PRIMARY	105.8	
SECONDARY	225.2	
TOTAL CONSTRUCTION	331.0	<b>\$ 9,101,272</b>
<b>ROAD MAINTENANCE</b>	<b>616.3</b>	<b>\$ 278,528</b>
<b>MNR TOTAL ROAD PAYMENTS</b>		<b>\$ 9,379,800</b>
<b>TOTAL PAYMENTS</b>		<b>\$10,814,677</b>

NOTE: this table represents activities carried out by the Company and the associated costs to MNR. As part of the MNR obligation under the agreement, Forest Management activities were also conducted by MNR, at additional expense.

- (1) 3,031 ha (23%) of the area harvested during the five-year term received a regeneration treatment by the company. In addition 1828 ha (14%) received a regeneration treatment by MNR during this five-year phase-out period. Also, 7100 ha (53%) of the area is in the process of being prepared for regeneration through prescribed burns, site preparation and surveys of areas where natural regeneration is expected. The remaining ten percent is currently being evaluated as to treatability.

The review committee examined the harvest cut and road construction records of the Company and found them to be in conformity with the areas allocated for harvest and the road locations specified in the management documents or approved amendments. Due in part to the change in agreement holder, numerous amendments to the plans for harvest allocations and road locations were requested.

The level of harvest, regeneration, site preparation and road construction during the five-year period was lower than planned, while the level of tending significantly exceeded the plans, (Figure 1).

Reasons for the low level of harvest are provided in Section 2.3 and for the low level of road construction in Section 2.5 of this report.

Regeneration levels did not meet the planned objectives for Company operations for the following reasons; lower than planned harvest levels, prescribed burns postponed or cancelled due to unfavorable weather conditions, a change in the logging system from tree-length to full-tree which precluded the use of planned scarification for natural regeneration on many sites, and the occurrence of poplar residuals on mixed-wood cutovers.

Artificial techniques such as direct seeding exceeded planned levels, while the planting program was proportionately in line with the available harvest area. Tending treatments on recent cutover were more than double those planned for the period.

## **2.2 THE GROUND RULES**

### **2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT**

Based on the discussions held with the Company, both in the office and field, it was apparent that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement. There did, however, seem to be some confusion over the responsibility for treatment of NSR 6 lands between the Company and Ministry. This confusion appeared to be aggravated by the delay of two years between the NSR survey itself and the signing of the agreement. After discussion with the Company and MNR during the five-year review, these responsibilities were clarified.

The committee noted that the Company had increased their Forestry staff compliment to deal with their new management responsibilities under the agreement.

**RECOMMENDATION:** That the Company and Ministry jointly review the status of lands cutover two years prior to the signing of the agreement and classify these areas to the appropriate NSR classes.

### **2.2.2 CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES**

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representative confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either harvested or depleted for other reasons in the operating plan period were to be included in the depletion section of the annual report. To date, no areas have been declared as non-treatable, although the Company has kept records of non-treated areas.



# FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



The review committee is concerned that non-treatable areas may be overlooked by both parties and that a failure to track natural regeneration progress or classify the sites non-treatable, could result in disputed retreatment obligations or inadvertent loss of productive land for documentation and planning purposes.

**RECOMMENDATION:** That the Company and the Ministry jointly review the status of lands cut over during this five-year term, for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-90 annual report.

The Committee noted that the Company is a member of the North Shore Tree Improvement Co-operative and as such will be involved in plus-tree collections, and establishment and maintenance of family trials and seed orchards. The long-term objective of this co-operative program is to improve the genetic quality of growing stock planted on the **WHITE RIVER FOREST**.

Also of note was the Company's initiative under clauses 3.1 and 4 of the ground rules to experiment with cone-shelter seeding of jack pine. A site inspection of this trial by the committee indicated promising results that could lead to the use of this lower cost alternative to tree planting.

The Company is to be commended for its pursuit of genetic gains and lower cost regeneration alternative.

### **2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES**

The invoicing procedures of the Company were found to be in general conformity with those specified in the ground rules. In the earlier years of the agreement some reconciliations were required after submission of the invoices; however, this problem has been resolved by the Company representative and the DCR verifying hectares treated, number of trees planted and kilometres of road constructed or maintained prior to submission of invoices.

### **2.2.4 THE PREPARATION OF NEW GROUND RULES**

The Forest Management Agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before that expiry date of March 31st, 1988.

The preparation of the new ground rules commenced on time but at the time of the five-year review of the FMA, (August 2nd, 1988), the ground rules had not been agreed to by the Company and MNR District. The ground rules were, however, in the final approval stages.<sup>2</sup>

It was apparent to the committee that the work load on the DCR in the latter half of 1987 in reviewing a new Timber Management Plan, an annual work schedule and new ground rules and preparing an annual work schedule for the Crown unit at the same time, played a major role in the delay of ground rule negotiation and reaching an agreement on same.

**RECOMMENDATION:** That the Ministry take the necessary steps to ensure that future ground rule negotiations are completed in time for approval by the required date.

### **2.3 HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW**

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **WHITE RIVER FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to the levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus (paragraph 20(5)) to its needs in an approved management plan; however, liquidated damages do not apply in the first five-year term of a Forest Management Agreement.

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<sup>2</sup> Ground rules have subsequently been agreed to.

The Company did not meet its harvest obligations (Figure 2) in any of the conifer working groups. Three primary factors contributed to the conifer undercut.

Firstly, the sawmill was shut down for 4 1/2 months in order to make major modifications; secondly, start-up problems at the mill persisted for longer than planned; thirdly, more timber was purchased from external sources than forecast.

As a result of a 6.5 million dollar modernization of the sawmill, production has been increased significantly and harvesting of 97% of the conifer maximum allowable depletion (MAD) is predicted for the next five-year term. Yield predicted for the next five-year term is similar to actual yields recovered during the five-years under the review. Wood requirements have increased from 157,000 cubic metres in 1983 to an estimated 480,000 cubic metres in 1989.

The Company does not use hardwood in its mill and is dependent on other companies to utilize the hardwood allowable depletions. This arrangement has resulted in the utilization of approximately 20% of the allowable depletion of the poplar and birch working groups. The Company is currently working toward full utilization of its hardwoods either through third parties or market sales.

The Company has been increasing its harvest levels and is predicting 97% utilization of the conifer MAD in the next five-year period, however, should market or production forecasts change planned harvest levels, the following is recommended.

**RECOMMENDATION:** That in the event the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

## 2.4 NSR OBLIGATIONS

The review committee was very impressed with the 1680 ha of not satisfactorily regenerated (NSR) land treated, compared to the five-year commitment of 776 ha. (Figure 3)

The Company, in the three years that it has been responsible for the FMA, has done a commendable job in regenerating its NSR lands. In addition, Company field inspections and subsequent silvicultural regeneration treatment experiments have shown that some NSR lands classified as untreatable can be re-classified as treatable at a lower but acceptable stocking density. This treatment has been negotiated and agreed to in the new ground rules.

The review committee commends the Company on its initiative in upgrading formerly untreatable NSR land to productive forest land.

## 2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay, subject to a maximum amount per kilometre, for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be included in approved annual plans and constructed according to the standards specified in Schedule "E" of the agreement.

On the **WHITE RIVER FOREST**, roads are inspected jointly by a Ministry and a Company representative to verify standards and measure lengths. In no case during the period under review was a road found to be sub-standard.



FIGURE 2: COMPARISON OF ALLOWABLE  
DEPLETION AND HARVEST

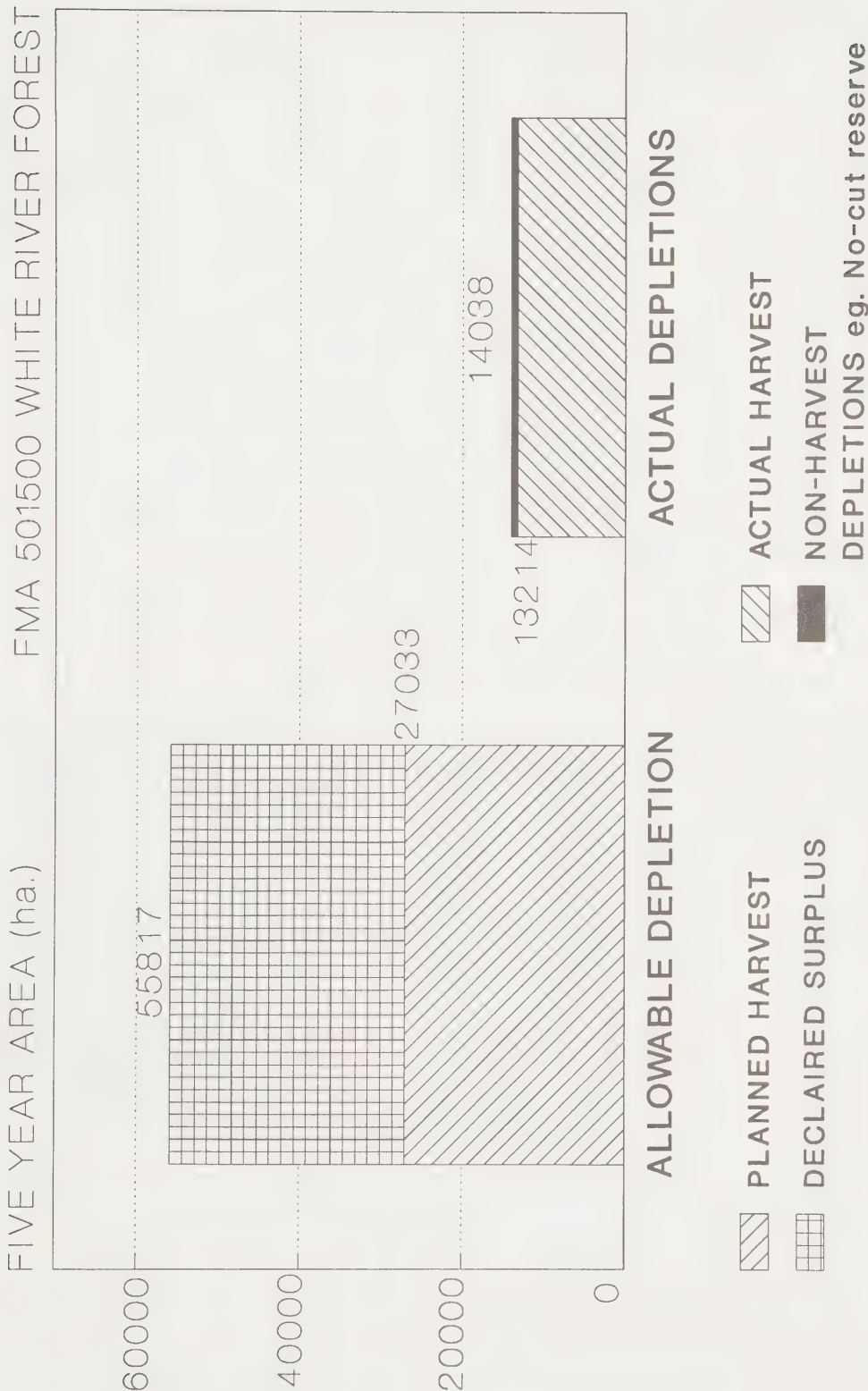


FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1983-88

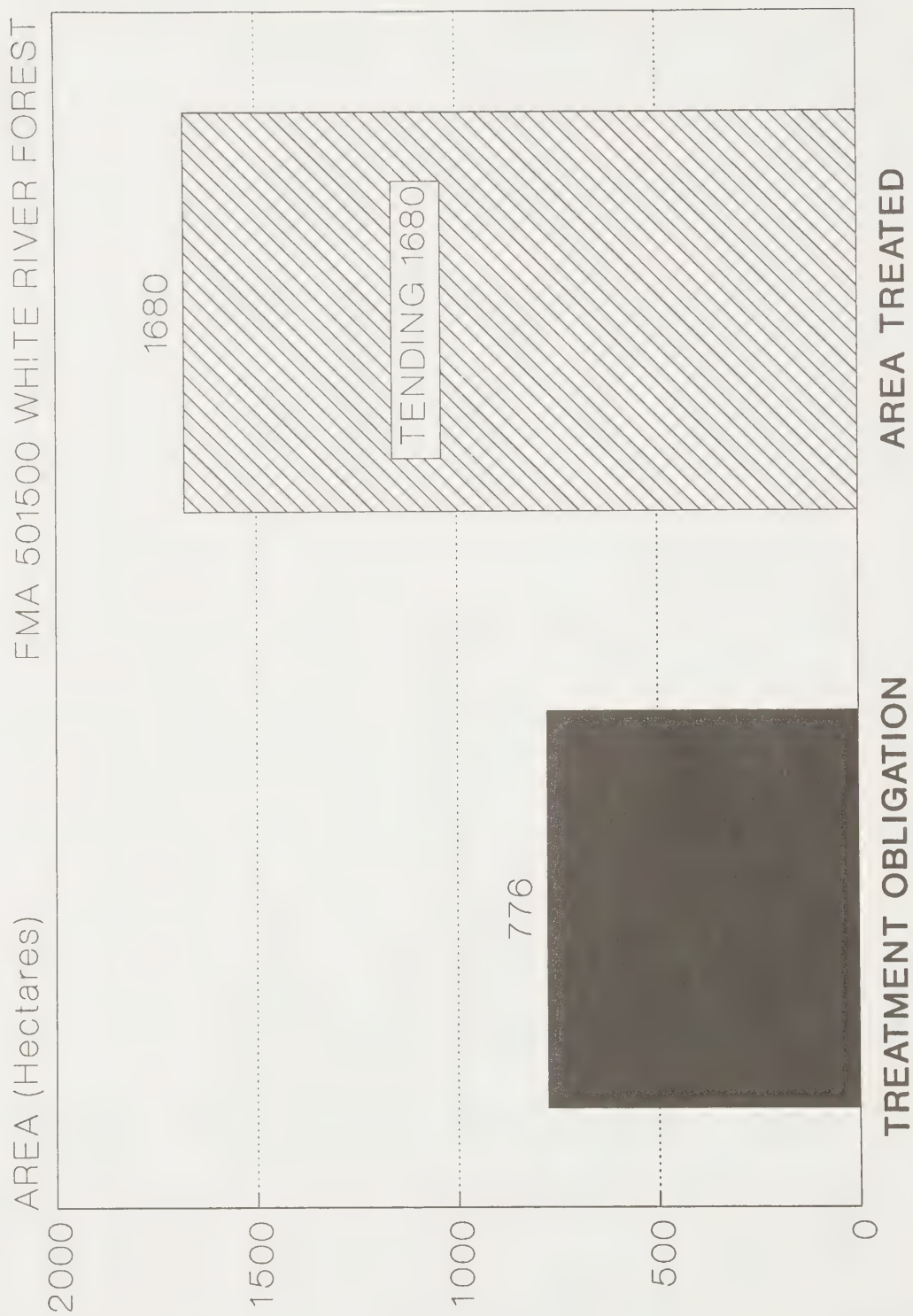


Figure 1 shows that fewer roads were built than planned. The reason given by the Company was the inadequate and inconsistent levels of Ministry funding that made a sustained construction program difficult. For example, received percentages of road funding requested in annual plans varied from 43% (1985) to 98% (1987). Although there may have been good reasons for these differences, such as the reduction in harvest, or changes in eligibility of the roads for funding, the annual variation in funding created problems with managing the road construction program. The Company actually used 98% of the funds made available by the Ministry during the five years. The Company policy of accessing older stands first led them to place priority on the building of primary roads. Thus primary road construction fell short of planned by only 14% but secondary road construction by 38%. Since upkeep of both old and new roads is necessary for movement of logs, road maintenance fell short of planned by only 4%.

Roads totalling 443 KM existed on the **WHITE RIVER FOREST** prior to signing the FMA. Large areas of the north-east and south-west extremities of the forest remained inaccessible. During the period under review the Company constructed 106 KM of primary roads and 225 KM of secondary roads. Primary roads built during this five-year term provided access to about half of each extremity.

## 2.6 COMPANY RECORDS

The committee found that Company records respecting depletion data were deficient in the recording and tracking of by-pass areas and non-harvest depletions for the five-year period. The committee is concerned that failure to deplete or reclassify these areas, could lead to an artificially inflated maximum allowable depletion in future periods.

**RECOMMENDATION:** That the Company take steps to record, deplete or reclassify all depletions back to the commencement of the FMA period and make the appropriate adjustments to the land base before future recalculation of the maximum allowable depletions (MAD).

Areas cut are marked on Mylar Forest Resources Inventory (FRI) maps covering the FMA area. Records of silvicultural activities are then entered on new mylar base maps. All areas on one base map that have been treated the same way in the same year are then designated by a single project number that includes a letter code and colour code for quick identification of treatments. Areas of two site preparation activities and one planting operation were checked by dot-grid and electronic planimeter and found to be accurate.

The Company has not received the records of the Ministry's pre- and post FMA silvicultural work conducted on the agreement area. These records are required for effective forest management.

**RECOMMENDATION:** That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area both prior to and after signing of the agreement.

It was noted that the Company intends to implement a geographic information system (GIS) before the end of 1989 to track and record information such as depletions, growth and yield, local volume tables and allowable depletion. This system will also be used for such applications as wood supply modelling and economic analysis. The Company is to be commended for these planned initiatives.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires that the holder prepare an annual report in accordance with the Forest Management Manual summarizing certain aspects of operations during the preceding year.

The committee found that reported road construction and maintenance lengths in one investigated instance and two years' reports of areas planted, were all virtually identical with figures calculated by the committee. The annual reports were accurate and submitted on time.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 6 of the ground rules, entitled Management For Other Uses, outlines responsibilities for managing areas for uses other than forest products. The provisions are implemented through the Management Plan and detailed in the Operating and Annual Plans.



Although the text of the management and operating plans did not detail how the Company proposed to conduct operations to address the areas to be managed for other forest users or uses, actual field accommodation of other users and uses has been conducted well. Ministry personnel made good use of the exclusions and the modified management areas to mitigate the effects of proposed large clearcuts by locating no-cut or deferred-cut networks along streams. In addition, the topography divided many cut areas and rendered others inoperable, while poor markets for hardwoods resulted in partial cuts leaving stands of some value for wildlife.

Tourism concerns were addressed, after Company personnel attended meetings with the Ministry and outfitters; haul roads were relocated, gates installed, and non-cut areas left along canoe routes.

Road crossings have been well handled in some parts of the forest, but less well in others. Some culverts were set too high preventing fish movement, and some bridge approaches were eroding. In most cases the situation was saved by gravel soils, and no fisheries values were threatened, but the potential for damage was present.

**RECOMMENDATION:** That the Company review and routinely apply the recently produced water crossing guidelines, especially the placement of culverts and the protection of stream banks.

### **3. MAINTENANCE AND PRODUCTIVITY**

Table 2 shows the maximum allowable depletion which was calculated for the **WHITE RIVER FOREST** at the beginning of the five-year term under review.

It indicates that the levels of harvest and other forest depletions were well below the maximum allowed under sustained yield management for all working groups.

Thirty-seven percent of the amount of area harvested during the five-year term received a regeneration treatment. In addition, fifty-three percent (7100 ha) of the area is in the process of being prepared for regeneration through prescribed burns, site preparation and surveys of areas where natural regeneration is expected. The remaining ten percent is currently being evaluated as to treatability.

The area of regeneration assessed as free-to-grow during the term was 1242 ha; this area will increase substantially in the next five-year term as more Company-treated and naturally regenerated areas become eligible for free-to-grow.

**Table 2****WHITE RIVER FMA 501500**

Comparison of the 1983-88 maximum allowable depletion, total depletion, harvest and regeneration activities and the 1988-93 maximum allowable depletion.

Working Group/or Forest Unit	1983-1988 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-1993 Maximum Allowable Depletion
Jack Pine 1	4,800	2,597	2,506		8,440
Jack Pine 2	7,519	3,237	3,005		N/A
Jack Pine 3	N/A				1,362
Spruce 1	9,783	2,553	2,422		9,872
Spruce 2	5,874	2,132	1,905		N/A
Spruce 3	N/A				776
Spruce 4	N/A				1,007
Balsam 1	4,464	67	67	N/A	4,351
Balsam 4	N/A				350
Poplar 1	14,933	2,959	2,853		2,586
Poplar 2	N/A				11,592
Poplar 4	N/A				2,093
White Birch 1	8,444	467	430		1,845
White Birch 2	N/A				2,497
White Birch 4	N/A				1,586
Protection Forest	0	26	26		
<b>TOTAL</b>	<b>55,817</b>	<b>14,038</b>	<b>13,214</b>	<b>4,859 (1)</b>	<b>48,357</b>

N/A - not applicable

(1) Ministry phase-out operations included in regeneration total

#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501500 or with regard to the Ministry's administration of the agreement.

The following are the concerns expressed by senior management of Domtar Inc.

##### 1. FMA Funding

The Company expressed concern over the uncertainty of funding as well as the delays in official notification of approval. Delays of funding approval cause budgeting, contracting and execution problems for the company. To meet commitments, the company must often proceed with road construction and regeneration projects prior to receiving official funding approval. It is requested that the Ministry accelerate their process for funding commitments to the company to meet a deadline of April 1st to coincide with the start of annual operations.

##### 2. Ministry delays in generating FMA documents.

The amount of information and number of documents to be generated has grown in the past five years whereas the Ministry staff has remained stable or has been reduced during this same period. As a result of the increased work load required to generate FMA documents the Ministry is often unable to meet FMA deadlines. It is suggested that the Ministry review the staff workload relationship and either streamline current FMA documents that the present staff are capable of processing in the prescribed time limits, or increasing staff to meet present requirements.

##### 3. Timber Management Plan Amendments

The Company is concerned that changes in policy with respect to treatment and prescriptions for management of other resources that have just been released ( e.g. Fisheries) may require major amendments to their recently produced TMP.

##### 4. Recording of Partial Harvests

The Company is experiencing difficulty in the recording of by-pass or partially depleted areas and requests Ministry advise on how to record these areas in their depletion records. The areas in question are mainly hardwood forest units which are by-passed or hardwood forest units from which the conifer component has been removed.

##### 5. MNR Plantation and Work Records

The Company presently has no records of the areas regenerated or treated by MNR. Without this history the Company is not able to tend the plantations or to prescribe treatment for these MNR areas. The Company requests maps and records of treatment for all areas treated by the MNR on the FMA area.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee is satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review, but notes that the Company and the Ministry have not agreed to a management plan and ground rules for the second five-year term.<sup>3</sup>

The committee was encouraged with the progress made during the Company's three year responsibility for the FMA, in the regeneration of rocky and boulder sites as well as the revised organization to manage the FMA. It is obvious from the intensity of the silvicultural efforts of tree improvement and improved cost efficient regeneration systems, as well as the new record keeping system (GIS) currently being developed, and the increase in forestry staff, that the Company is fully committed to the management and successful regeneration of the **WHITE RIVER FOREST**.

**RECOMMENDATION NO. 1:** That the Minister extend the remaining period of FMA 501500 by a further term of five consecutive years to March 31st, 2008, pending agreement on new ground rules by both the Company and Ministry and the approval of the Timber Management Plan.<sup>4</sup>

<sup>3</sup> A management plan has subsequently been approved and ground rules agreed to.

<sup>4</sup> Timber plan has subsequently been approved and ground rules agreed to.



**RECOMMENDATION NO. 2:** That the Company foresters and MNR planning team members attend Timber Management Plan training sessions together, well before preparation of the next Timber Management Plan revision, in order to better address and resolve the problems and complexities of the Timber Management Planning process.

**RECOMMENDATION NO. 3:** That the Company and Ministry jointly review the status of lands cut over two years prior to the signing of the agreement and classify them in the appropriate NSR class.

**RECOMMENDATION NO. 4:** That the Company and the Ministry jointly review the status of lands cut over during this five-year term, for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-90 annual report.

**RECOMMENDATION NO. 5:** That the Ministry take the necessary steps to ensure that future ground rule negotiations are completed in time for approval by the required date.

**RECOMMENDATION NO. 6:** That in the event the Company should forecast harvest levels during the second five-year period to fall below the 90% level of those stated in the current plan, the Company should take immediate action to request, with reasonable explanation, an undercut variation from the Minister and to amend its management plan with a further surplus declaration.

**RECOMMENDATION NO. 7:** That the Company take steps to record, deplete or reclassify all depletions back to the commencement of the FMA agreement and make the appropriate adjustments to the land base before future recalculations of the maximum allowable depletion (MAD).

**RECOMMENDATION NO. 8:** That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area both prior to and after signing of the agreement.

**RECOMMENDATION NO. 9:** That the Company review and routinely apply the recently produced water crossing guidelines, especially the placement of culverts and the protection of stream banks.



**FIVE YEAR REVIEW**

**QUEBEC AND ONTARIO PAPER  
COMPANY LIMITED**

**(FORMERLY Q.N.S. PAPER COMPANY  
LIMITED, ONTARIO PAPER COMPANY  
DIVISION)**

**COCHRANE FOREST  
AGREEMENT 501600**

**1983 - 1988**





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## 1. INTRODUCTION

### 1.1. PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Company Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Company Ltd.) signed a Forest Management Agreement (FMA) on the **COCHRANE FOREST** south of Cochrane, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **COCHRANE FOREST** was harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **COCHRANE FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

### 1.2. THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The members were as follows:

- Mr. G. W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R. A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University

### 1.3. TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **COCHRANE FOREST** during its first five year term vis à vis its obligations under Forest Management Agreement #501600 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e., Section 15, paragraph 33).

The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement,
- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

The **COCHRANE** and **GARDINER** Forests, FMA's 501600 and 501700, have been amalgamated commencing April 1st, 1988 into the Driftwood Forest. Data for the **COCHRANE** and **GARDINER FORESTS** for the next five year term refer to the **DRIFTWOOD FOREST FMA**.

### 2.1. MANAGEMENT PLANNING

#### 2.1.1. THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1), and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until September 17th, 1984. The plan was submitted by the extended due date. Alterations were requested by the Ministry and the plan was resubmitted April 24th, 1985 and approved October 29th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. Extensions were granted by the Ministry until May 7th, 1984 and the plan was submitted on that date. The plan was returned to the Company for alterations, was resubmitted May 6th, 1985 and approved August 1st, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold the required public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e., for the **GARDINER, COCHRANE** and **TIMMINS FMA's**). However, some delay can be attributed to the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start up problems encountered following its modernization.

Prior to the signing of the agreement, the annual plan for the first year of the agreement (1983-1984) was prepared under licenses 080200 and 381900. The annual plans or work schedules for the remainder of the years under review were submitted by the due dates. The plans were all returned to the Company for alterations and were resubmitted by the required dates.

The Company has prepared a timber management plan for the second five year term for the new Driftwood agreement (i.e. combined Cochrane and Gardiner FMAs) in accordance with the new **Timber Management Planning Manual for Crown Lands In Ontario**.

The new plan was submitted by the due date of October 1st, 1987 and approved by the Ministry prior to the commencement of operations.

In conclusion, although extensions to the due dates for the 20 year management plan and the 5 year operating plan were requested by the Company and granted by the Ministry, the Company met its management planning obligations.

#### 2.1.2. PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Two minor deviations from the approved cutting areas were recorded. Amendments to the plans were requested and approved both in harvest allocation and road location. The level of regeneration and access construction during the five years was lower than planned while the level of harvest, site preparation and tending was above planned as portrayed in Figure 1.

Reasons for the high level of harvest are provided in Section 2.3. and for the low level of road construction in Section 2.5. of this report. Regeneration levels did not meet the planned objective because the amount of area expected to regenerate naturally within this five year period proved to be overly optimistic. Artificial techniques such as planting, however were very close to the planned levels.



**Table 1**  
**Summary of the Company's Forest Operations at Ministry Expense for 1983 - 1988**

**FMA EXPENDITURE AND  
 ACCOMPLISHMENT REPORT  
 FOR THE FIVE YEAR TERM  
 1983-1988**

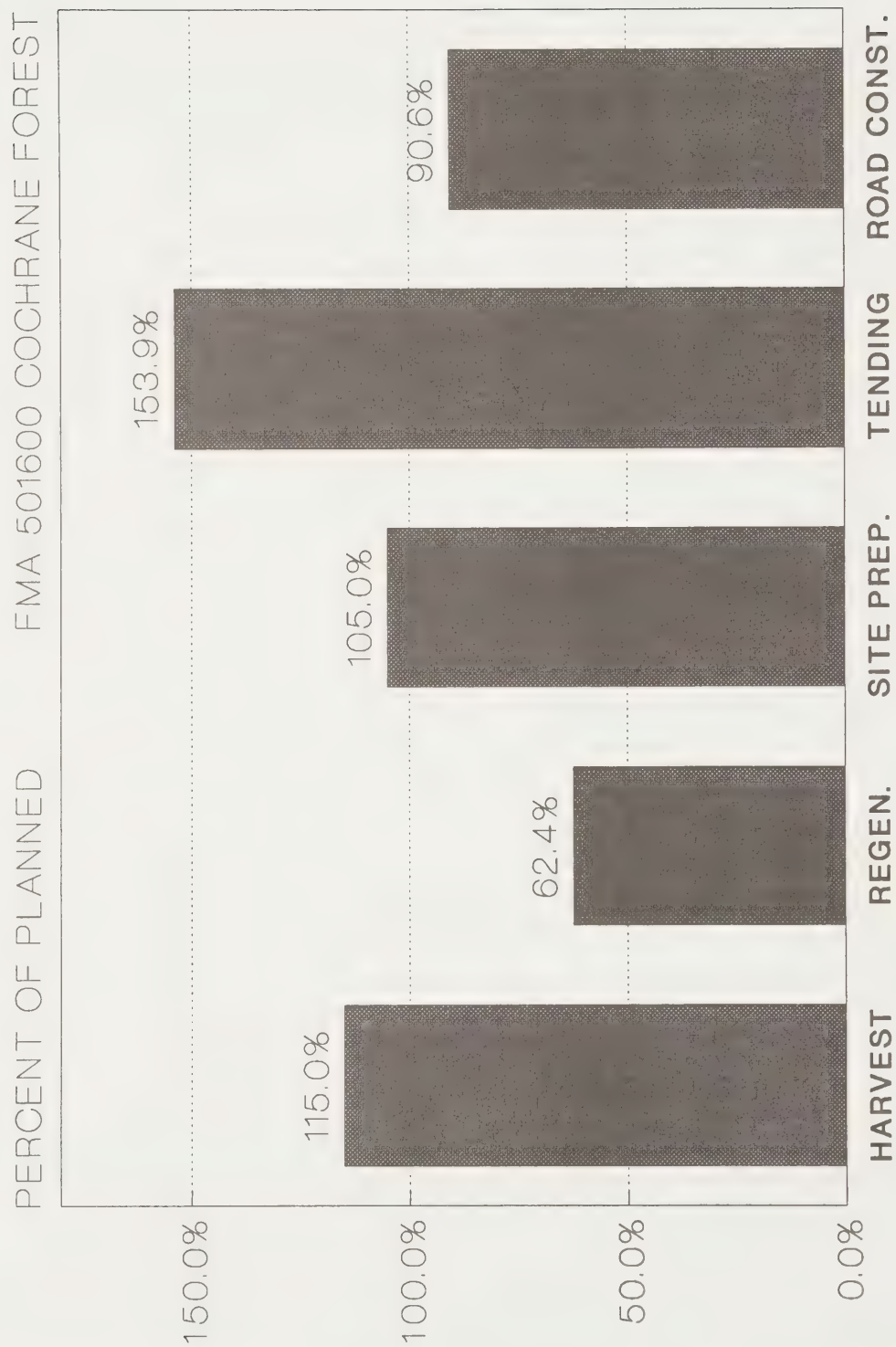
**FMA 501600  
 COCHRANE FOREST  
 QUEBEC AND ONTARIO  
 PAPER COMPANY**

<u>ACTIVITY</u>	<u>HECTARES</u>	<u>DOLLARS</u>
<b>HARVEST CUT</b>	3,599	
<b>NATURAL REGENERATION</b>	666	
<b>ARTIFICIAL REGENERATION</b>		
PLANTING BAREROOT	505	
PLANTING CONTAINER	702	
SEEDING WITH SITE PREPARATION	0	
TOTAL ARTIFICIAL	1,207	
<b>TOTAL REGENERATION</b>	1,873	
<b>TENDING</b>		
CHEMICAL CLEANING/AERIAL	1,998	
CHEMICAL CLEANING/GROUND	2	
OTHER TENDING	0	
TOTAL TENDING	2,000	
<b>SITE PREPARATION</b>		
MECHANICAL	1,829	
CHEMICAL	0	
TOTAL SITE PREPARATION	1,829	
<b>MNR SILVICULTURAL PAYMENTS</b>		\$ 1,064,855
<b>ROAD CONSTRUCTION</b>	<u>KILOMETRES</u>	<u>DOLLARS</u>
PRIMARY	69.9	
SECONDARY	46.8	
TOTAL CONSTRUCTION	116.7	\$ 2,819,937
<b>ROAD MAINTENANCE</b>	252.7	\$ 114,347
<b>MNR TOTAL ROAD PAYMENTS</b>		\$ 2,934,284
<b>TOTAL PAYMENT</b>		\$ 3,999,139

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, forest management activities were also conducted by MNR, at additional expense.



# FIGURE 1: COMPARISON OF OPERATING PLAN vs ACTUAL



## **2.2. THE GROUND RULES**

### **2.2.1. KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT**

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### **2.2.2. CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES**

The committee's examinations of silvicultural records, its field inspections and its discussions with the designated Crown representative (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either allocated for harvesting in the operating plan or depleted for other reasons during the operating plan period were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **COCHRANE FOREST** have been road right-of-ways, despite the fact that almost 3,600 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

### **2.2.3. CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES**

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. The Company representatives and the DCR reconciled any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained, before submission of invoices.

### **2.2.4. THE PREPARATION OF NEW GROUND RULES**

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before the expiry date of March 31st, 1988. The committee notes that the preparation of the new ground rules commenced prior to the required date but that at the time of the five year review of the FMA, June 21st, 1988, the ground rules had not been agreed to by either party. Under paragraphs 14(2) and 33(a)(b) of the agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five-year term.

**RECOMMENDATION:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.

## **2.3. HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW**

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **COCHRANE FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.



The Company met its harvest obligations in the spruce working group but stands severely damaged by spruce budworm contributed to an undercut in the balsam fir working group. The poplar was declared surplus but, during the five year term, a demand for poplar developed and Forty-Five percent of the poplar allowable depletion was harvested.

Figure 2 shows a comparison of the actual harvest for the five year term with the allowable depletion, for all working groups combined.

The Company has been vigilant in declaring any surplus and are commended for their actions.

For the five year period, actual conifer yields per hectare were found to be extremely close to the predictions forecasted for the period in the 1983 Operating Plan. Yields predicted for the 1988-1993 operating period from the new Timber Management Plan would seem to indicate continuing similar yields, however, volume forecasts in the budworm damaged balsam fir working group are uncertain; as are expected harvest levels.

## 2.4. NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands, at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 1,233 hectares for the five year term under review and 4,931 hectares for the entire 20 year period of the agreement.

The review committee was impressed with the 1,996 ha of NSR land treated but noted that an additional 601 hectares of previously listed NSR land had been field inspected, found not to require treatment and been declared naturally regenerated (Figure 3). Normally these areas would not be credited as part of the NSR obligation, but failure to do so now would result in the Company not having sufficient NSR land to treat economically to meet its commitment.

**RECOMMENDATION:** That the Minister recognize the naturally regenerated 601 hectares as part of the NSR obligations and the Company be credited with 2,597 ha of NSR lands treated.

## 2.5. ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay subject to a maximum amount per kilometre for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

The terrain of the **COCHRANE FOREST** is generally flat with soils composed mainly of deep organic on clay. However, a few eskers provide better foundations for roads and supply gravel.

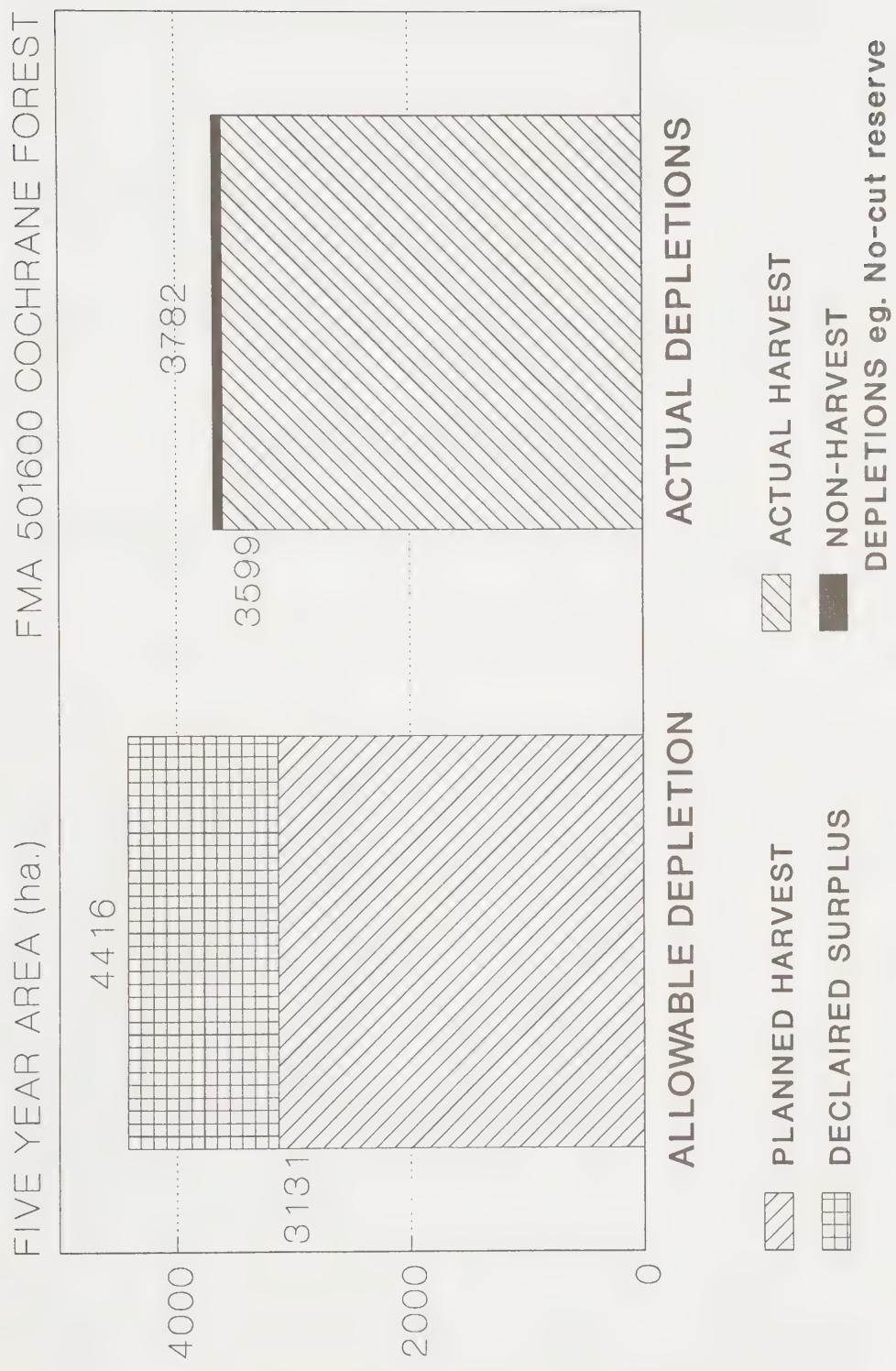
Relatively few variations were found between planned and actual routes. One small change from the planned route occurred in Mann Township due to a field error resulting from the difficulties of working in a massive blowdown.

Roads were constructed mainly to provide access to over mature stands while in some instances existing roads were upgraded to facilitate transportation of wood during the summers.

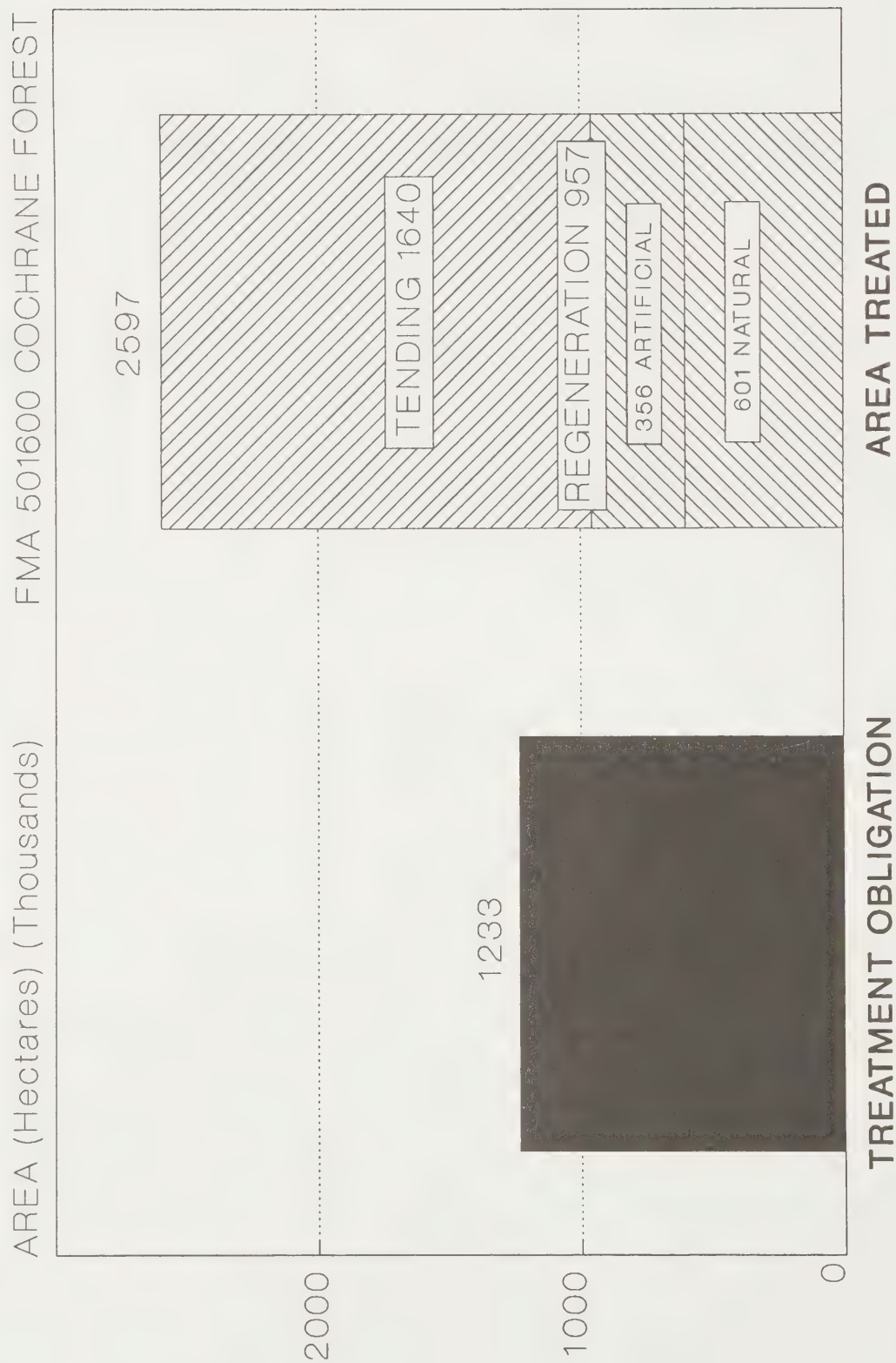
In this FMA roads are constructed by contractors under company supervision and inspected jointly by a company representative and an MNR field technician prior to final invoicing. The company generally constructs roads to a higher standard than the specifications outlined in the ground rules of the agreement although on occasion invoices have been accepted on a provisional basis. (Example: Requirements for additional gravel to thin spots). Due to timing of gravel application (winter applications) some of the roads constructed in the early years of the FMA fell below standard and had to be repaired by the company at their cost. The problems with timing of gravel application have now been resolved.

Sections of road were measured for length against the invoices and, in all but one instance, were found to be consistent. This one discrepancy was not considered to be a problem as actual billing is based on field-measured distances.

FIGURE 2: COMPARISON OF ALLOWABLE  
DEPLETION AND HARVEST



**FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1983-88**





Although 90.6% of the planned roads for the five year term were constructed, only 67.0% of the planned maintenance was completed under FMA funding due in part to the shortfall in FMA funds and the company decision to apply available funds to new road construction and road reconstruction in lieu of maintenance. The remaining maintenance requirements were conducted by the Company at their own expense.

Prior to the signing of the FMA, 50.4 kilometres of road existed on the agreement area. Since the FMA came into force 69.9 kilometres of primary and 46.8 kilometres of secondary road have been constructed or reconstructed.

## **2.6. COMPANY RECORDS**

Silvicultural records begin with a mylar map of the FMA area. At the first instance of Company activity (e.g. cutting mature stands, site preparation or tending NSR sections), the area is delineated on the FMA mylar and a six digit project number assigned. The number accommodates subsequent tracking of the area for succeeding treatments and also indicates which treatment have been applied.

Details concerning the area and its treatment (including such items as an aerial photograph, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seeding, competition, previous treatment and post treatment) are currently retained in binders. Data are also being entered on Company computers but the system is not yet operational.

Three tending and two site preparation areas were measured from maps with an electronic graphics calculator and compared with reported figures. All were found to be acceptable.

Although maps have been forwarded to the Company detailing work carried out by the Ministry on the agreement area during and prior to the Ministry phase out period, the corresponding data had not at the time of review been forwarded to the Company. The review committee concluded that the silvicultural records were accurate and carefully maintained.

**RECOMMENDATION:** That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area.

It was noted that the Company has pursued on their own initiative a number of record keeping and information gathering developments. In particular, the Company is initiating the use of colour infra-red and colour aerial photography in their regeneration assessment program. In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows Company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

## **2.7. ANNUAL REPORTS**

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available in either Company or Ministry records to substantiate submission dates. However, Company employees and the DCR agree that they cannot recall any report being late or returned for inaccuracies. Company personnel reconciled maps and tables with MNR records before annual reports were written.

The accuracy of the annual reports was checked by compiling road length totals from invoices for 1983-1984 and 1987-1988 and comparing them with totals in the Annual Reports. There were no errors or omissions and the records were found to be accurate. Apart from the recording of submission dates, a commendably good job of annual reporting has been maintained.

**RECOMMENDATION:** That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.



## 2.8. INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules, entitled Modified Management Areas<sup>1</sup>, details how areas managed to meet objectives other than or in addition to wood fibre production were to be identified during the preparation of the five year operating plan for the period. It was the responsibility of the Ministry to identify these areas and develop prescriptions. The Company was to implement the Ministry's prescriptions.

Few problems with other users occurred on the **COCHRANE FMA**. Only one tourist outfitter needed to be consulted and he found the additional access to be a benefit. Attempts were made to accommodate cottager requirements for access. In one area, two roads were not joined to accommodate cottagers concerns with wood haul traffic.

Prior to the FMA, cutovers in this area exceeded in size the current moose habitat guidelines, but, since the implementation of the agreement, clearcut sizes have been relatively small. As a result few modifications to normal operations have been necessary for moose and other wildlife habitat requirements. A moose concentration area in Aurora Township was identified for special treatment and a heronry in Aurora Township has been located.

Modified Management Areas have been identified to protect warm water lakes and streams.

The Company, thus far, has elected to treat these MMAs as no cut areas. This prescription is designed to protect the fish and wildlife values of the area but has led to some problems with extensive blowdown of remaining trees. Blowdowns prevent the use of the reserve for moose, hinder access, fill the water with debris and compromises the aesthetic values.

**RECOMMENDATION:** That the Ministry and Company investigate the blowdown problem of over-mature stands in no cut areas and develop prescriptions that will better address the needs of identified timber and other use values.

## 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **COCHRANE FOREST** at the beginning of the five year term under review. Harvesting and other forest depletions fell within the obligations of the agreement for all working groups.

Of the total area regenerated by artificial or natural means over 40% of this was done on NSR lands. Regeneration of recent cutover was low (approximately 38%) due to the concentration on returning prime site NSR lands back into production. Also, regeneration operations may take place during the three year period after the harvest and will therefore be included in future summaries. The next five year term should see an increase in regeneration activities on recent cutover.

To further address long term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry and other companies in the area. Seed orchards designed to produce superior tree seed for future planting stock, linked to a prime-site strategy, have been established.

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<sup>1</sup> Modified Management Areas (MMAs) have since been replaced by the "Area of Concern" planning process.

## COCHRANE FOREST FMA 501600

Table 2

Comparison of the 1983-1988 Maximum Allowable Depletion, Total Depletion (MAD), Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion.

Working Group or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion (1)
Spruce X,1,2(2)	2,398	2,636	2,541		5,733
Spruce 3	321	227	226		456
Balsam Fir	493	127	94		886
Poplar X,1,2	1,057	544	497	N/A	1,468
Poplar 3	147	41	39		193
White Birch	0	0	0		525
Protection Forest	0	36	36		0
NSR	0	171	166		0
TOTAL	4,416	3,782	3,599	2,318(3)	9,261

(1) This column presents the Driftwood Forest 1988-1993 MAD. Driftwood Forest is the former Cochrane and Gardiner Forest. The data are not directly comparable with the 1983-88 MAD for the Cochrane Forest.

(2) X,1,2,3 refers to site class - a measure of site productivity with X being the most productive and 3 the least.

(3) Ministry phase-out operations included in regeneration total

#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501600 or with regard to the Ministry's administration of the agreement. Senior management of the Quebec and Ontario Paper Company, though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval.
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMAs as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot, as the present standard is unacceptable.
- the cap on nursery stock production. It is considered to be preventing competition and entry of good new quality growers.
- the continuing high percentage of reserves (Modified Management Areas) placed without a good forest management reason for their existence, especially in remote areas. Public input, while necessary for good multiple use planning, often takes precedence over correct forest management.
- the frequent changing of Designated Crown Representatives which causes many unnecessary problems.
- the possible allocations of perceived surplus timber for 20 years by MNR to other companies

#### 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five year term under review, but notes that the Company and the Ministry have not agreed to new ground rules for the second five year term. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the **COCHRANE FOREST**.

**RECOMMENDATION NO. 1:** That the Minister extend the remaining period of FMA 501600 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.<sup>2</sup>

**RECOMMENDATION NO. 2:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report

**RECOMMENDATION NO. 3:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.<sup>3</sup>

**RECOMMENDATION NO. 4:** That the Minister recognize the naturally regenerated 601 hectares as part of the NSR obligations and the Company be credited with 2,597 ha of NSR lands treated.

**RECOMMENDATION NO. 5:** That the Ministry provide the Company with all pertinent silvicultural data and records of work conducted by the Ministry on the FMA area.

**RECOMMENDATION NO. 6:** That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

**RECOMMENDATION NO. 7:** That the Ministry and Company investigate the blowdown problem of over mature stands in no-cut areas and develop a prescription that will better address the needs of identified timber and other use values.

<sup>2</sup> Ground rules have subsequently been agreed to.

<sup>3</sup> Ground rules have subsequently been agreed to.

**FIVE-YEAR REVIEW  
QUEBEC AND ONTARIO PAPER  
COMPANY LIMITED  
(FORMERLY Q.N.S. PAPER COMPANY  
LIMITED, ONTARIO PAPER COMPANY  
DIVISION)**

**GARDINER FOREST  
AGREEMENT 501700  
1983 - 1988**





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## 1. INTRODUCTION

### 1.1 PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Co. Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Co. Ltd.) signed a Forest Management Agreement (FMA) on the **GARDINER FOREST** northwest of Cochrane, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **GARDINER FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **GARDINER FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

### 1.2 THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G.W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited Committee Chairman,
- Mr. R.A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources,
- Dr. H.G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University.

### 1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **GARDINER FOREST** during its first five-year term vis-a-vis its obligations under Forest Management Agreement #501700 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e. Section 15, paragraph 33)

The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement.
- selecting and field inspecting harvest cuts, silvicultural projects and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules.
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.

## 2. PROCEDURES AND FINDINGS

The **COCHRANE** and **GARDINER FORESTS**, FMAs 501600 and 501700, have been amalgamated commencing April 1st, 1988 into the Driftwood Forest. Data for the **COCHRANE** and **GARDINER FORESTS** for the next five-year term (i.e. 1988-93) refer to the **DRIFTWOOD FOREST** FMA.

### 2.1 MANAGEMENT PLANNING

#### 2.1.1 THE PREPARATION OF PLANS

Paragraph 6(1), 10(1), 11(1) and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until October 15th, 1984. The plan was submitted prior to this date.

Alterations were required and the plan was returned to the Company. The final plan was submitted by the Company April 25th, 1985 and approved October 29th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. Extensions were granted by the Ministry until July 2nd, 1984. The plan was submitted July 12th, 1984. Alterations were requested by the Ministry and the plan was resubmitted and received final approval of the Ministry on August 1st, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e. for the **GARDINER**, **COCHRANE** and **TIMMINS FMAs**). Some delay resulted from the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start-up problems encountered following its modernization.

Prior to the signing of the agreement, the annual plan for the first year of the period under review was prepared under Crown Timber Licenses 384300 and 384400. The annual plans for the remaining four years were submitted by the due dates, reviewed by the Ministry and returned to the Company for alterations. The altered plans were submitted on or before the required due dates.

The Company has prepared a timber management plan for the second five-year term for the new Driftwood agreement (i.e. combined Cochrane and Gardiner FMAs) and in accordance with the new Timber Management Planning Manual For Crown Lands In Ontario. This new plan was submitted by the Company by the due date and was approved by the Ministry on March 9th, 1988 prior to the commencement of operations.

In conclusion, the Company was found to be late in meeting its management planning obligations for the 20-year management plan and the five-year operating plan but did so with concurrence of the Ministry. The Company's obligation for the remaining plans were met.

#### 2.1.2 PLAN IMPLEMENTATION

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Four minor deviations and one major deviation from the approved cutting areas were recorded, all of which resulted in charges under the Crown Timber Act. The major deviation involved the cutting of standing timber across the boundary of their agreement area. Amendments to the plans were requested and approved both in harvest allocations and road locations. The level of harvest and access construction during the five years was slightly lower than planned while regeneration, site preparation and tending were higher as portrayed in Figure 1.

**TABLE 1**

Summary of the Company's forest operations at Ministry expense for 1983-1988.

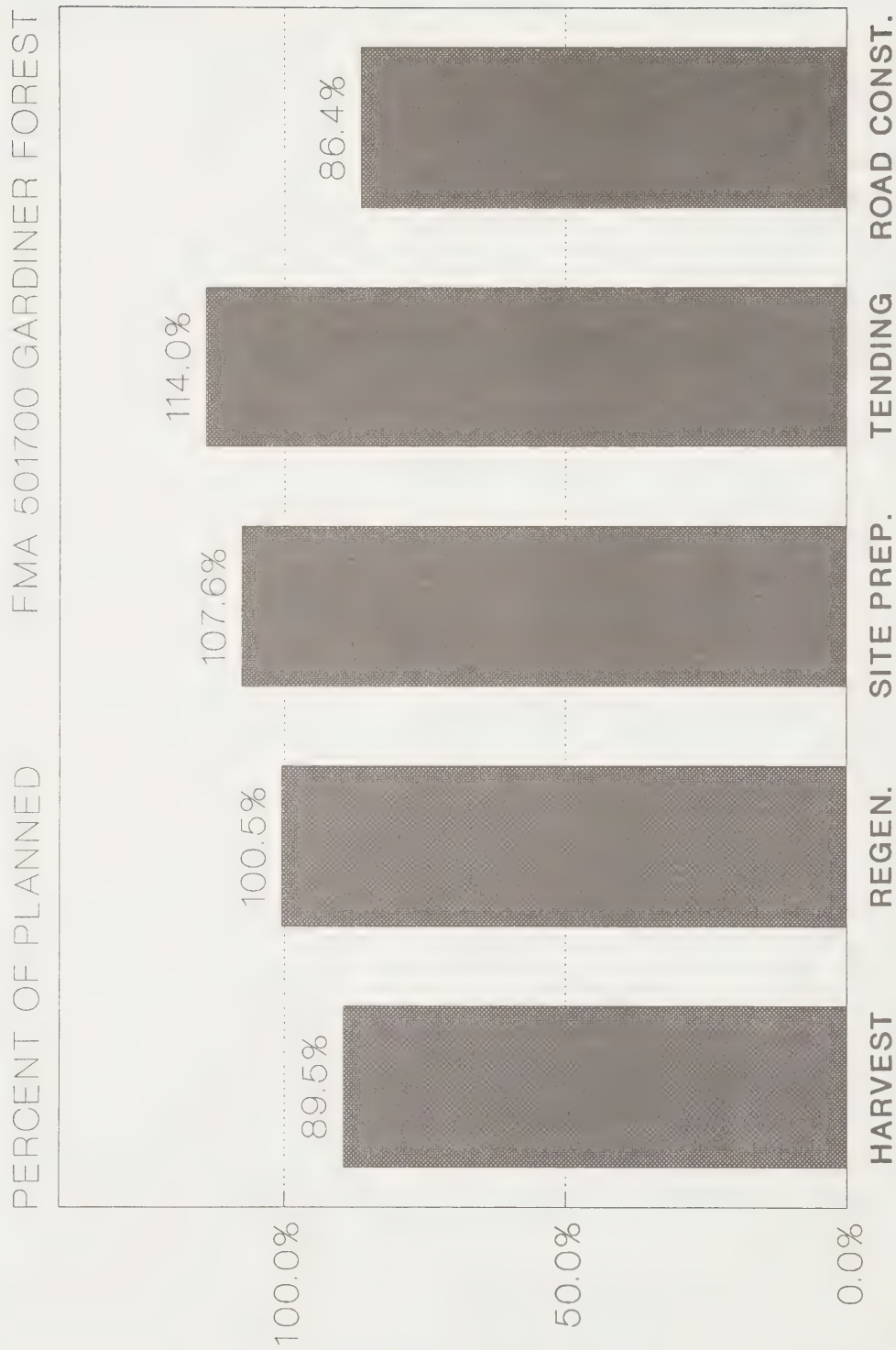
**FMA EXPENDITURE AND  
ACCOMPLISHMENT REPORT  
FOR THE FIVE-YEAR TERM 1983-88****FMA 501700  
GARDINER FOREST  
QUEBEC AND ONTARIO  
PAPER COMPANY**

ACTIVITY	HECTARES	DOLLARS
<b>HARVEST CUT</b>	3,548	
<b>NATURAL REGENERATION</b>	931	
<b>ARTIFICIAL REGENERATION</b>		
PLANTING BAREROOT	878	
PLANTING CONTAINER	1,187	
SEEDING DIRECT	0	
SEEDING WITH PREPARATION	0	
<b>TOTAL ARTIFICIAL</b>	2,065	
<b>TOTAL REGENERATION</b>	2,996	
<b>TENDING</b>		
CHEMICAL CLEANING/AERIAL	2,736	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
<b>TOTAL TENDING</b>	2,736	
<b>SITE PREPARATION</b>		
MECHANICAL	2,801	
CHEMICAL	280	
<b>TOTAL SITE PREPARATION</b>	3,081	
<b>MNR SILVICULTURE PAYMENTS</b>		\$1,931,152.00
<b>ROAD CONSTRUCTION</b>	<b>KILOMETRES</b>	<b>DOLLARS</b>
PRIMARY	26.9	
SECONDARY	124.7	
<b>TOTAL CONSTRUCTION</b>	151.6	\$3,516,283.00
<b>ROAD MAINTENANCE</b>	209.6	\$ 94,180.00
<b>MNR TOTAL ROAD PAYMENTS</b>		\$3,610,463.00
<b>TOTAL PAYMENTS</b>		\$5,541,615.00

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, Forest management activities were also conducted by MNR, at additional expense.



**FIGURE 1: COMPARISON OF OPERATING PLAN  
vs ACTUAL**



## 2.2 THE GROUND RULES

### 2.2.1 KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### 2.2.2 CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representative (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules.

The committee notes that the ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat. Non-treatable areas either allocated for harvesting in the operating plan or depleted for other reasons during the operating plan period were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **GARDINER FOREST** have been road right-of-ways, despite the fact that over 3,500 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed upon to be non-treatable in the 1989-90 annual report.

### 2.2.3 CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules. Any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained were reconciled between the Company representative and the DCR before submission of invoices.

### 2.2.4 THE PREPARATION OF NEW GROUND RULES

The forest management agreement with the Company requires both parties to commence the preparation of new ground rules for the next five-year term at least eight months prior to the expiry of the old ground rules, and to agree upon these new ground rules on or before the expiry date of March 31st, 1988. The committee notes that the preparation of the new ground rules commenced prior to the required date but at the time of the review, June 20th, 1988, the ground rules had not been agreed to by either party. Under paragraphs 14(2) and 33(a) (b) of the Agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five-year term.

**RECOMMENDATION:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.<sup>1</sup>

## 2.3 HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOWS

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **GARDINER FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

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<sup>1</sup> Ground rules have subsequently been agreed to.



Paragraph 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.

The Company met its minimum 90% harvest requirements in all working groups with the exception of the birch and spruce 1 working groups. For the (declared) surplus areas, markets developed for poplar which enabled 9.7% of the surplus to be harvested. During the term, Cochrane Enterprises Limited was given first-right-of-refusal for all poplar veneer logs. Figure 2 shows a comparison of the actual cut for the five-year term with the allowable depletion for all working groups combined.

For the five-year term, actual conifer yields per hectare were extremely close to the yields predicted, as well as the area harvested. Yields predicted for the 1988-93 operating period indicate similar yields.

The review committee commends the Company for achieving almost ninety percent of their forecasted harvest of the **GARDINER FOREST**.

## 2.4 NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 1,707 hectares for the five-year term under review and 6,828 hectares for the entire 20-year period of the agreement.

The Company has treated 3,386 hectares of NSR land thereby exceeding their obligations (Figure 3). In addition, a further 753 hectares regenerated naturally for a total treatment of 4,139 hectares. The naturally regenerated lands are not normally credited, but in this case, they were part of the NSR surveyed lands and failure to credit these hectares now would result in the Company not having sufficient NSR lands to treat economically in order to meet its 20-year obligation.

**RECOMMENDATION:** That the Minister recognize the naturally regenerated 753 hectares as part of the NSR obligations, and the Company be credited with 4,139 ha. of NSR lands treated.

## 2.5 ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay subject to a maximum amount per kilometre for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

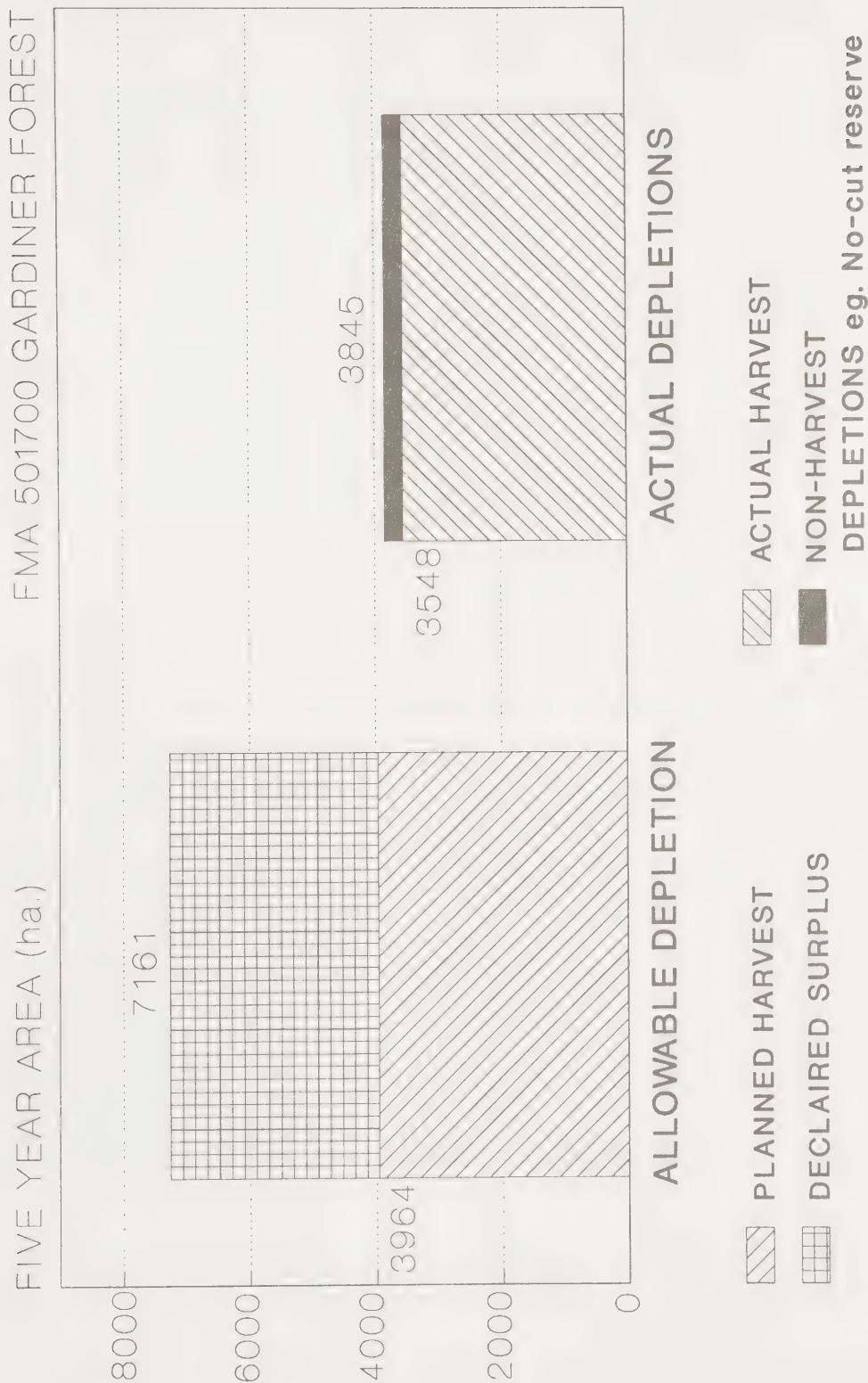
The terrain covered by the **GARDINER FOREST** is flat, with soils composed of deep organic on clay: therefore, few obstacles to road construction are encountered, though gravel is scarce. As a result, relatively few variations were found between planned routes and actual routes.

In this FMA, roads are laid out by the Company and built by contractors. Company personnel inspect roads before advancing sums to contractors, then jointly with a MNR field technician prior to invoicing MNR. The Company generally constructs roads to a higher standard than the specifications outlined in the ground rules of the agreement.

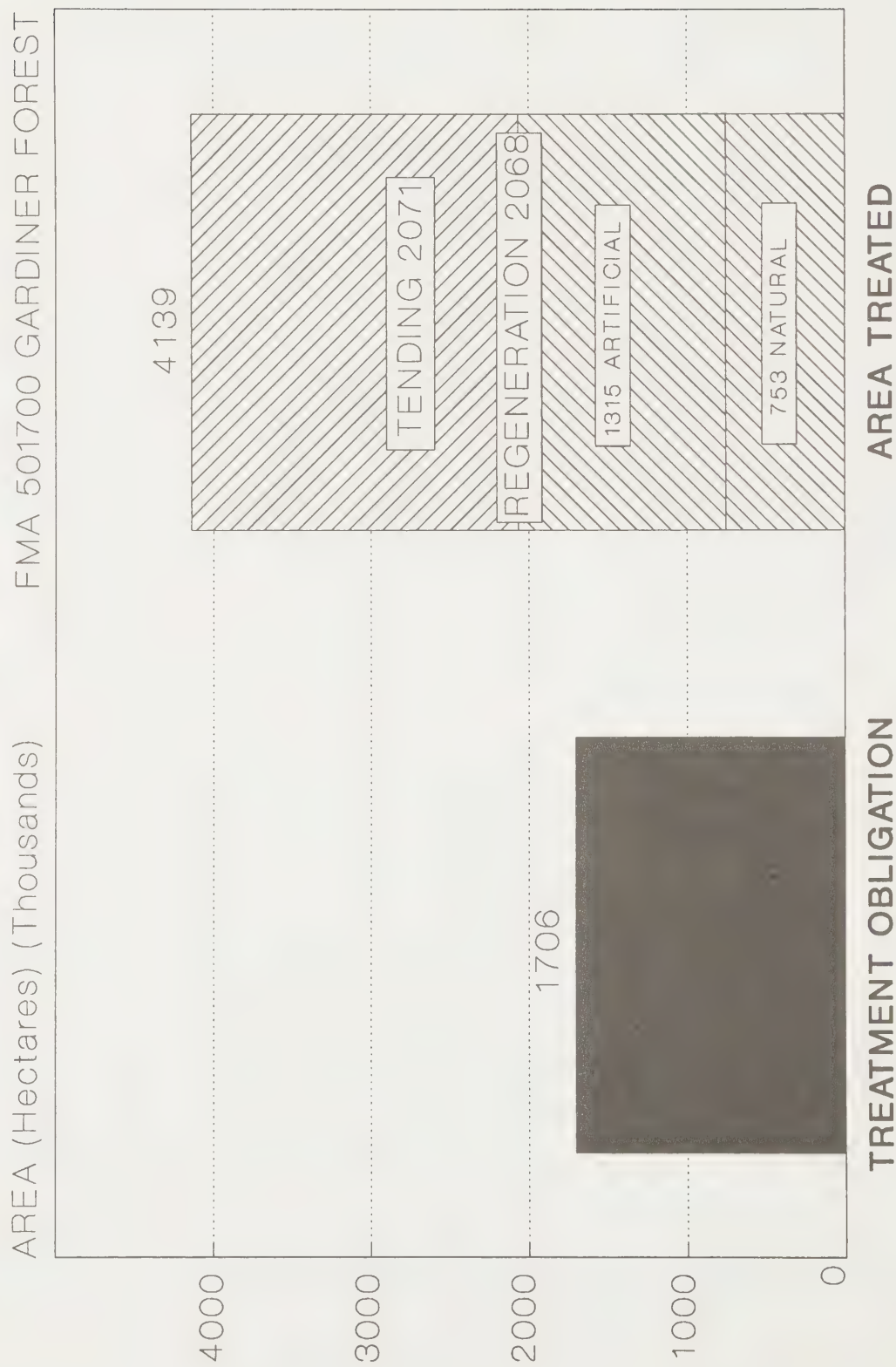
Due to timing of gravel application some of the roads constructed in the early years of the FMA fell below standard and had to be repaired by the company at their cost. The problems with timing of gravel application have now been resolved.

Two sections of road were measured for comparison with the invoices; one tallied exactly and one was out only slightly. Any slight discrepancy is not considered important because actual billing is based on field-measured distances.

# FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST



**FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1983-88**





Traditionally the cutting in this FMA has been a winter operation not requiring major haul roads. On this account no primary roads were built during 1983-87. However, at that time a fibre exchange agreement was entered into with a Cochrane-based company that required year round supplies. Therefore in 1987-88 all road funds were shifted from secondary construction and maintenance to the construction of primary roads (Operating Plan Table 5.1). Overall 86.4% of the roads projected in the Operating Plan were built, with the shortfall being due to lack of FMA funds and the decisions to construct the more costly primary roads to accommodate the year round delivery required by the Cochrane based company. The Company continued to maintain the roads to an acceptable standard.

The roads were located to access difficult-to-reach 130+ year old overmature stands and to provide access during summer for silvicultural purposes. Prior to signing the agreement, 52 km of primary and secondary roads existed in the **GARDINER FMA** area. During the first five years of the agreement, 26.9 km of primary road and 70.4 km of secondary road were built or reconstructed. In addition 54.3 km of tertiary existing roads were upgraded to secondary standards and 209.6 km of maintenance were carried out.

## 2.6 COMPANY RECORDS

Silvicultural records are maintained on mylar maps with details concerning the area and its treatment (including such items as an aerial photograph, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seedling, competition, previous treatment and post treatment) contained in accompanying binders. Information about any treatment area is tracked by a six digit project number (assigned at first activity, such as cutting or site preparation) that accommodates subdivision of the area and indicates treatments that have been applied. Data are being entered on Company computers but the computer system is not yet operational. One planting area was measured on a map from the Company's silvicultural records using an electronic graphics calculator and the result agreed with that in the record. Thus the silvicultural records appeared to be accurate and carefully maintained. Depletion records were also checked and proved to be accurate and well maintained.

It was noted that the Company has pursued, on their own initiative, a number of record keeping and information gathering developments. In particular, the Company is initiating the use of colour infrared and colour aerial photography in their regeneration assessment program.

In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows Company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

## 2.7 ANNUAL REPORTS

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available either in Company or Ministry records to substantiate submission dates. Company employees and the DCR agree that they cannot recall any report being late or returned for inaccuracies. Company personnel reconciled maps and tables with MNR records before annual reports were written.

The accuracy of the Annual Reports was checked. An invoice error was found in the first year when one invoice was duplicated. This was corrected later and no further errors were found.

Apart from the dating of reports and the above double invoicing, a commendably good job of annual reporting has been sustained.

**RECOMMENDATION:** That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

## 2.8 INTEGRATION WITH OTHER FOREST USERS

Section 9 of the ground rules, entitled Modified Management Areas<sup>2</sup>, details areas which are to be managed to meet objectives other than or in addition to wood fibre production were to be identified during the production of the five-year operating plan for the period.

It was the responsibility of the Ministry to identify these areas and develop prescriptions to accommodate other forest users or uses. The Company was to implement the Ministry's prescriptions.

On the **GARDINER FOREST** compliance with this section of the FMA was not difficult. Only two wilderness outfitters needed to be accommodated. The Company has modified the timing of summer cutting and the pattern of cutting to accommodate these outfitters. A road was located in the Operating Plan so as to avoid the location of one operator and a bridge was re-located from the original plan so that it could not be seen from his lodge. Some problems remain as a new owner still considers the road to be too close and a request for a gate was turned down by Cochrane District because of public opposition.

Cottagers are mainly interested in access provided by logging roads and where and when it will arrive. The Company tries to leave plenty of room around the cottages.

Cut areas in this FMA are generally small, presenting relatively few problems for moose habitat concerns. No birds are known to require nest site protection.

No cold water fish need to have spawning areas protected. Warm water shoreline reserves and aquatic feeding area reserves for moose are accepted by the Company as necessary. After a trial modified cut in one reserve went awry due to poor field communication, the Company has elected to treat MMAs as no-cut areas. However, some concern was expressed about the excessive blowdown that resulted in many of them.

## 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **GARDINER FOREST** at the beginning of the five-year term under review. It indicates that the level of harvest and other forest depletions was well within the bounds of the maximum allowed under sustained yield management for all working groups and extremely close to the planned harvest projections.

Of the total regenerated area (4,064 ha), 51% of the regeneration was on old cutover NSR lands and the remainder was done on recent cutover. Therefore 56% of the recent cutover was regenerated during 1983-88. The percentage of recent cutover regeneration is expected to increase in future years as during this period the Company made a special effort to concentrate on regenerating prime site NSR lands. No areas were assessed as free-to-grow but many Company and Ministry treated areas will become eligible in the next five-year term.

To further address long term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry and other companies in the area. Seed orchards designed to produce superior tree seed for future planting stock linked to a prime-site strategy have been established.

The review committee was impressed with the organization and silvicultural practices of the Company and commend the Company for the prompt action taken in regenerating the harvested area.

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<sup>2</sup> Modified Management Areas have since been replaced by the "Area of Concern" planning process.

**Table 2****GARDINER FOREST FMA 501700**

Comparison of the 1983-1988 Maximum Allowable Depletion (MAD), Total Depletion, Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion.

Working Group/or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion (1)
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Poplar x,1,2	843	111	95		1,468
Poplar 3	138	0	0		193
Riparian Forest	720	243	182		525
Protection Forest	0	35	35		0
NSR	0	43	43		0
<b>Total</b>	<b>7,161</b>	<b>3,845</b>	<b>3,548</b>	<b>4,064(3)</b>	<b>9,261</b>

(1) This column presents the Driftwood Forest 1988-1993 MAD. Driftwood Forest is the former Cochrane and Gardiner Forest. The data are not directly comparable with the 1983-88 MAD for the Gardiner Forest.

(2) X, 1, 2, 3 refer to site class - a measure of site productivity with X being the most productive and 3 the least.

(3) Ministry phase-out operations included in regeneration total



#### 4. COMPANY CONCERNS

The Company was provided the opportunity to express any concerns that it might have with regard to FMA 501700 or with regard to the Ministry's administration of the agreement. Senior management of the Quebec and Ontario Paper Company, though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval.
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMAs as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot as the present standard is unacceptable.
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- the frequent changing of designated Crown Representatives which causes many unnecessary problems.
- the possible allocation of perceived surplus timber for 20 years by MNR to other companies.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five-year term under review, but notes that the Company and the Ministry have not agreed to ground rules for the second five-year term. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the Gardiner Forest.

**RECOMMENDATION NO. 1:** That the Minister extend the remaining period of FMA 501700 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.<sup>3</sup>

**RECOMMENDATION NO. 2:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five-year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed upon to be non-treatable in the 1989-90 annual report.

**RECOMMENDATION NO. 3:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.<sup>4</sup>

**RECOMMENDATION NO. 4:** That the Minister recognize the naturally regenerated 753 hectares as part of the NSR obligations, and the Company be credited with 4,139 ha. of NSR lands treated.

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**FIVE YEAR REVIEW**

**QUEBEC AND ONTARIO PAPER  
COMPANY LIMITED**

**(FORMERLY Q.N.S. PAPER COMPANY  
LIMITED, ONTARIO PAPER COMPANY  
DIVISION)**

**TIMMINS FOREST  
AGREEMENT 501800  
1983-1988**



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## 1. INTRODUCTION

### 1.1. PURPOSE OF THE REVIEW

The Minister of Natural Resources and Q.N.S. Paper Company Ltd., Ontario Paper Company Division (now known as the Quebec and Ontario Paper Company Ltd.) signed a Forest Management Agreement (FMA) on the **TIMMINS FOREST** southeast of Timmins, on June 20th, 1983. The purpose of this agreement was to provide for a continuous supply of forest products to the Company's mill at Thorold and to ensure that the **TIMMINS FOREST** is harvested and regenerated to produce successive crops of timber on a sustained yield basis.

This review of the first five consecutive years of the agreement was conducted on the **TIMMINS FOREST** to determine whether the obligations of the Company under the agreement have been satisfactorily performed and to recommend to the Minister of Natural Resources whether the remaining period of the agreement should be extended for a further term of five years.

### 1.2. THE REVIEW COMMITTEE

The review was carried out by a committee of three, engaged by the Ministry of Natural Resources for this purpose. The three committee members were:

- Mr. G. W. Bell, R.P.F., Vice-President Woodlands (Retired), Spruce Falls Power and Paper Company Limited, Committee Chairman
- Mr. R. A. Baxter, Director of Operations, Northern Ontario (Retired), Ministry of Natural Resources
- Dr. H. G. Cumming, Professor, Fish and Wildlife Management, School of Forestry, Lakehead University

### 1.3 TASKS OF THE REVIEW COMMITTEE

The review committee's assignment was to undertake a fair and objective review of Quebec and Ontario Paper Company's performance on the **TIMMINS FOREST** during its first five year term vis à vis its obligations under Forest Management Agreement #501800 and to make recommendations to the Minister of Natural Resources on the extension of the agreement's term according to the "Evergreen" section of the agreement (i.e., Section 15, paragraph 33).

The review was conducted by:

- examining the management, operating and annual plans, and the annual reports prepared by the Company with regard to their submission dates and their acceptability to the Ministry,
- inspecting the depletion, silvicultural and access road records for adequacy and for conformity with the management plans and the ground rules of the agreement,
- comparing the levels of harvest and treatment of not satisfactorily regenerated (NSR) lands outlined in the annual reports with the levels required by provisions of the agreement,
- selecting and field inspecting harvest cuts, silvicultural projects, and road construction typical of the techniques employed on the forest for conformity with the agreement holder's records and for field application of the ground rules,
- determining the degree to which other forest users and other forest values are accommodated in management planning and in field operations, and
- meeting with Company and Ministry district staff to identify problem areas and agreement concerns on the part of either party.



## **2. PROCEDURES AND FINDINGS**

### **2.1 MANAGEMENT PLANNING**

#### **2.1.1 THE PREPARATION OF PLANS**

Paragraph 6(1), 10(1), 11(1), and 15(1) of the agreement require the Company to prepare management and operating plans and a series of annual plans. These plans must be prepared and submitted according to the time frames specified in the agreement and according to the manual that has been approved by the Minister for this purpose.

The forest management agreement was signed on June 20th, 1983 and the management plan was due twelve months later. Extensions to this date were granted by the Ministry until October 1st, 1984. The first draft of the plan was submitted November 1st, 1984, one month late. The plan was returned to the Company for alterations and resubmitted to the Ministry on April 10th, 1985.

The operating plan for the 1983 to 1988 period was due December 20th, 1983. An extension of the due date was granted to February 20th, 1984. The plan was submitted July 6th, 1984. Alterations were requested by the Ministry and the plan was resubmitted January 10th, 1985. The plan received approval February 25th, 1985.

The extended time required in resubmitting the management and operating plans was the result of the workload placed on both the Company and Ministry staff in reviewing and revising the plans as well as the time required to hold public consultations.

The extensions requested were mainly due to the workload placed on the forestry staff of the Company's Timmins office in preparing three management plans, three operating plans and three annual plans in the same period of time (i.e., Timmins, Cochrane and Gardiner FMA's). However, some delay can be attributed to the inability of the Company's Thorold office to supply long term mill requirements for the Thorold mill due to start up problems encountered following its modernization.

For the first year of the agreement, operations were carried out under Licenses 080200, 384300 and 384400. The annual plans for the second, fourth and fifth years were submitted on time while the plan for the third year was submitted ten days past the due date.

The Company has prepared a management plan for the second five year term in accordance with the new Timber Management Planning Manual for Crown Lands in Ontario. This new plan was submitted prior to the due date and approved by the Minister on March 8th, 1988.

In conclusion, the Company was found to be late in meeting its management planning obligations during the early period of the agreement. In the latter period, plans were being submitted by the due date.

#### **2.1.2 PLAN IMPLEMENTATION**

The agreement requires that the Company conduct its operations in accordance with the approved management, operating and annual plans. The accomplishments of the Company in silvicultural operations and road construction are summarized in Table 1.

The review committee examined the harvest cut and road construction records of the Company and found them to be generally in conformity with the areas allocated for harvest and the road locations specified in the management documents. Two minor deviations from the approved cutting areas were recorded which resulted in charges under the Crown Timber Act. Other deviations detected were considered to be of an inconsequential nature.

Amendments to the five year operating plan and annual plans were requested in harvest allocations and road locations and were given approval by the Ministry. The levels of harvest, access road construction and tending during the five years were somewhat lower than planned, the levels of regeneration and site preparation exceeded planned levels as portrayed in Figure 1.



Reasons for the low level area of harvested are provided in Section 2.3. and for road construction in Section 2.5. of this report. The tending objective was not reached because the planned manual cleaning projects were not completed due to excessive costs and difficulties in managing the project in the field.

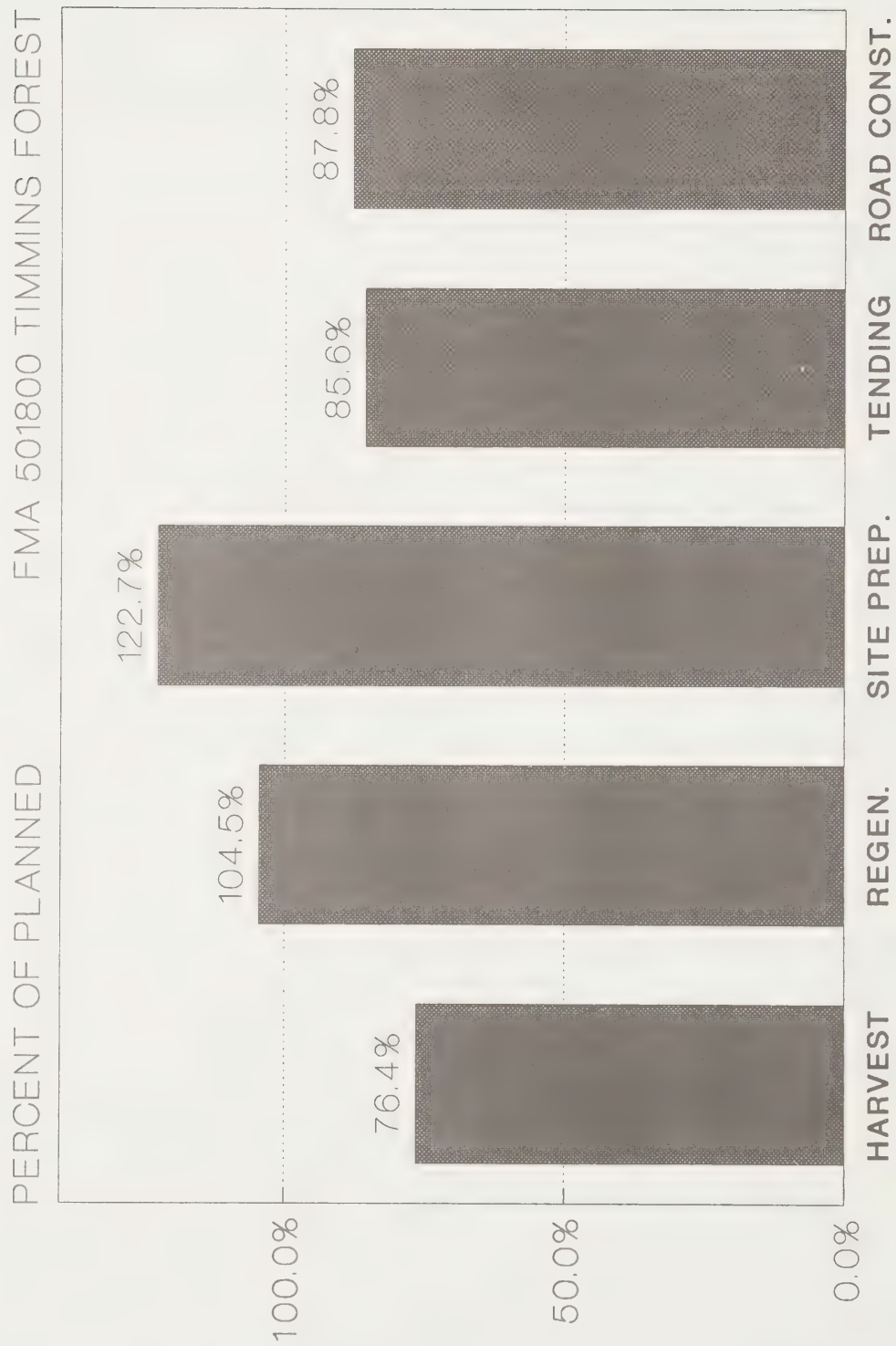
The aerial tending of recent cutover was less than 50% of that planned as the original estimate of the area requiring cleaning was in error.

**TABLE 1****Summary of the Company's Forest Operations at Ministry Expense for 1983 - 1988****FMA EXPENDITURES AND  
ACCOMPLISHMENT REPORT  
FOR THE FIVE YEAR TERM 1983-88****FMA 501800  
TIMMINS FOREST  
QUEBEC AND ONTARIO  
PAPER COMPANY**

ACTIVITY	HECTARES	DOLLARS
<b>HARVEST CUT</b>	5,764	
<b>NATURAL REGENERATION</b>	1,987	
<b>ARTIFICIAL REGENERATION</b>		
PLANTING BAREROOT	1,240	
PLANTING CONTAINER	1,393	
SEEDING WITH SITE PREPARATION	0	
<b>TOTAL ARTIFICIAL</b>	2,633	
<b>TOTAL REGENERATION</b>	4,620	
<b>TENDING</b>		
CHEMICAL CLEANING/AERIAL	2,464	
CHEMICAL CLEANING/GROUND	0	
OTHER TENDING	0	
<b>TOTAL TENDING</b>	2,464	
<b>SITE PREPARATION</b>		
MECHANICAL	3,463	
CHEMICAL	555	
<b>TOTAL SITE PREPARATION</b>	4,018	
<b>MNR SILVICULTURAL PAYMENTS</b>		\$ 1,933,817
<b>ROAD CONSTRUCTION</b>	<b>KILOMETRES</b>	<b>DOLLARS</b>
PRIMARY	166.1	
SECONDARY	50.8	
<b>TOTAL CONSTRUCTION</b>	216.9	\$ 6,296,854
<b>ROAD MAINTENANCE</b>	328.2	\$ 147,556
<b>MNR TOTAL ROAD PAYMENTS</b>		\$ 6,444,410
<b>TOTAL PAYMENTS</b>		\$ 8,378,227

NOTE: This table represents activities carried out by the Company, and the associated costs to MNR. As part of the MNR obligation under the Agreement, forest management activities were also conducted by MNR, at additional expense.

FIGURE 1: COMPARISON OF OPERATING PLAN  
vs ACTUAL



## **2.2. THE GROUND RULES**

### **2.2.1. KNOWLEDGE AND FAMILIARITY WITH THE GROUND RULES AND THE AGREEMENT**

Based on discussions held with the Company, both in the office and field, it was apparent to the review committee that the Company staff were knowledgeable and familiar with the provisions of the ground rules and the agreement.

### **2.2.2. CONFORMITY OF HARVEST AND SILVICULTURAL OPERATIONS WITH THE GROUND RULES**

The committee's examination of silvicultural records, its field inspections and its discussions with the designated Crown representatives (DCR) all confirmed that harvesting and silvicultural operations have been conducted in accordance with the ground rules. These ground rules provide for deviations from the silvicultural techniques laid out in Table 1 of the ground rules; new techniques were proposed by the Company in its annual plans and approved by the Ministry prior to implementation.

The ground rules permit the classification of non-treatable sites by mutual agreement. Any area may be classed as non-treatable where extremes in topography, shallowness of soil, excessive rock, poor drainage or inaccessibility make it uneconomic or impractical to treat.

Non-treatable areas either allocated for harvesting in the operating plan or depleted were to be included in the depletion section of the annual report. To date, the only areas that have been declared as non-treatable on the **TIMMINS FOREST** have been road right-of-ways, despite the fact that over 5,700 hectares (ha) have been harvested.

The review committee is concerned that non-treatable areas may have been overlooked by both parties and that a failure to classify them will result in disputed retreatment obligations.

**RECOMMENDATION:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment or plans for treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report.

### **2.2.3. CONFORMITY OF INVOICING PRACTICES WITH THE GROUND RULES**

The invoicing procedures of the Company were found to be in conformity with those specified in the ground rules with one exception. Any differences in hectares treated, number of trees planted or kilometres of road constructed or maintained were reconciled between the Company representative and the DCR. The exception concerns a hand-scalping project carried out in 1986-87 on which agreement was not reached between the company and MNR.

### **2.2.4. THE PREPARATION OF NEW GROUND RULES**

The forest management agreement with the Company calls upon both parties to commence the preparation of new ground rules for the next five year term at least eight months prior to the expiry of the old ground rules, and to agree upon those new ground rules on or before the expiry date of March 31st, 1988. The preparation of the new ground rules commenced well in advance of the required date but had not been agreed upon by either party at the time of the review, June 23rd, 1988. Under paragraphs 14(2) and 33(a)(b) of the agreement, ground rules for the next term are to be agreed to before extension of the agreement for a further five year term.

**RECOMMENDATION:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules.<sup>1</sup>

## **2.3. HARVEST LEVELS, ALLOWABLE DEPLETION, YIELDS AND WOOD FLOW**

According to paragraph 20(1) of the agreement, the Company has agreed to maintain its harvest on the **TIMMINS FOREST** at a level between 90% and 110% of the calculated allowable depletion (allowable cut) for each working group. The Company may request the Minister to authorize variations to those levels specified in the agreement.

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<sup>1</sup> Ground rules have subsequently been agreed to.



Paragraphs 20(3) and 20(4) of the agreement provide for either a remedy or liquidated damages in the event of an overcut or undercut, respectively, on the area under agreement. The agreement holder may avoid liquidated damages through the declaration of timber surplus to its needs in an approved management plan, however, liquidated damages do not apply in the first five year term of a forest management agreement.

The Company failed to meet its 90% harvest requirement in the conifer working groups but exceeded the harvest forecast for the hardwood working groups. Figure 2 shows a comparison of the actual cut for the five year term with the allowable depletion for all working groups combined.

Conifer yields (volume per hectare), for the five year term were found to be higher than those predicted in the 1983-1988 Operating Plan. While predicted conifer volumes were realized, the area harvested was less than predicted. In addition, an unpredicted significant harvest occurred in the hardwood working group, when markets developed for poplar and birch.

The prediction of conifer yields for the 1988-1993 operating period for the Timber Management Plan (TMP) are similar to actual yields obtained in the 1983-1988 period.

The current Company system for measuring harvested wood makes it difficult to predict volumes and yields to the accuracy required to meet FMA obligations.

**RECOMMENDATION:** That the Company improve its harvest predictions to ensure compliance with FMA minimum-maximum harvest requirements.

## 2.4. NSR OBLIGATIONS

Under provisions of the agreement, the Company has an obligation to reforest NSR lands, at the rate of 5% of class 2 and 3 NSR lands annually. This amounts to a total of 2,068 hectares for the five year term under review and 8,273 hectares for the entire 20 year period of the agreement.

The Company has treated 2,446 hectares of NSR land thereby exceeding their obligations for the five year term under review. In addition, a further 1,597 ha of NSR land regenerated naturally for a total treatment of 4,043 ha. Figure 3 shows the comparison of the NSR obligation and area treated.

The naturally regenerated lands are not normally credited, but in this case, they were part of the NSR surveyed lands and failure to credit these hectares now would result in the Company not having sufficient NSR land to treat economically to meet its 20 year obligations.

**RECOMMENDATION:** That the Minister recognize the naturally regenerated 1,597 hectares as part of the Company's NSR obligation, and the Company be credited with 4,043 ha. of NSR lands treated.

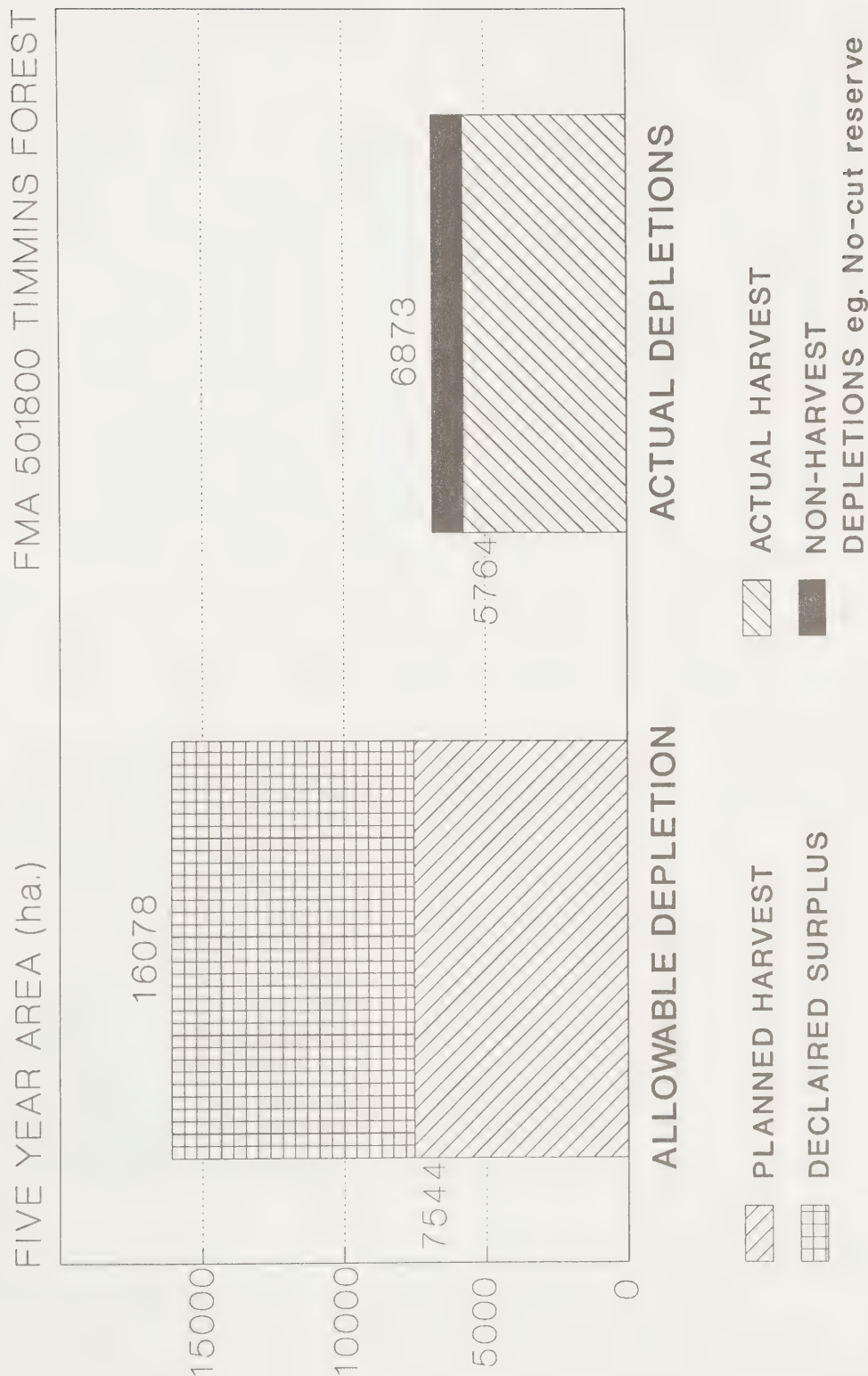
## 2.5. ROAD CONSTRUCTION

Paragraph 31 of the agreement provides for the Minister to pay, subject to a maximum amount per kilometre, for the construction or reconstruction of forest access roads on the agreement area. To be eligible for payment, roads must be detailed in an approved annual plan and constructed according to the standards specified in Schedule "E" of the agreement.

Prior to the FMA, 169 kilometres of road existed on the **TIMMINS FOREST** but provided limited access to the southern and north-central areas. Construction of primary roads was needed in these areas to allow access to overmature 130+ year old stands. During the first five years of the agreement 166 km (119% of planned) primary road and 51 km of secondary roads (47% of planned) were constructed or reconstructed.

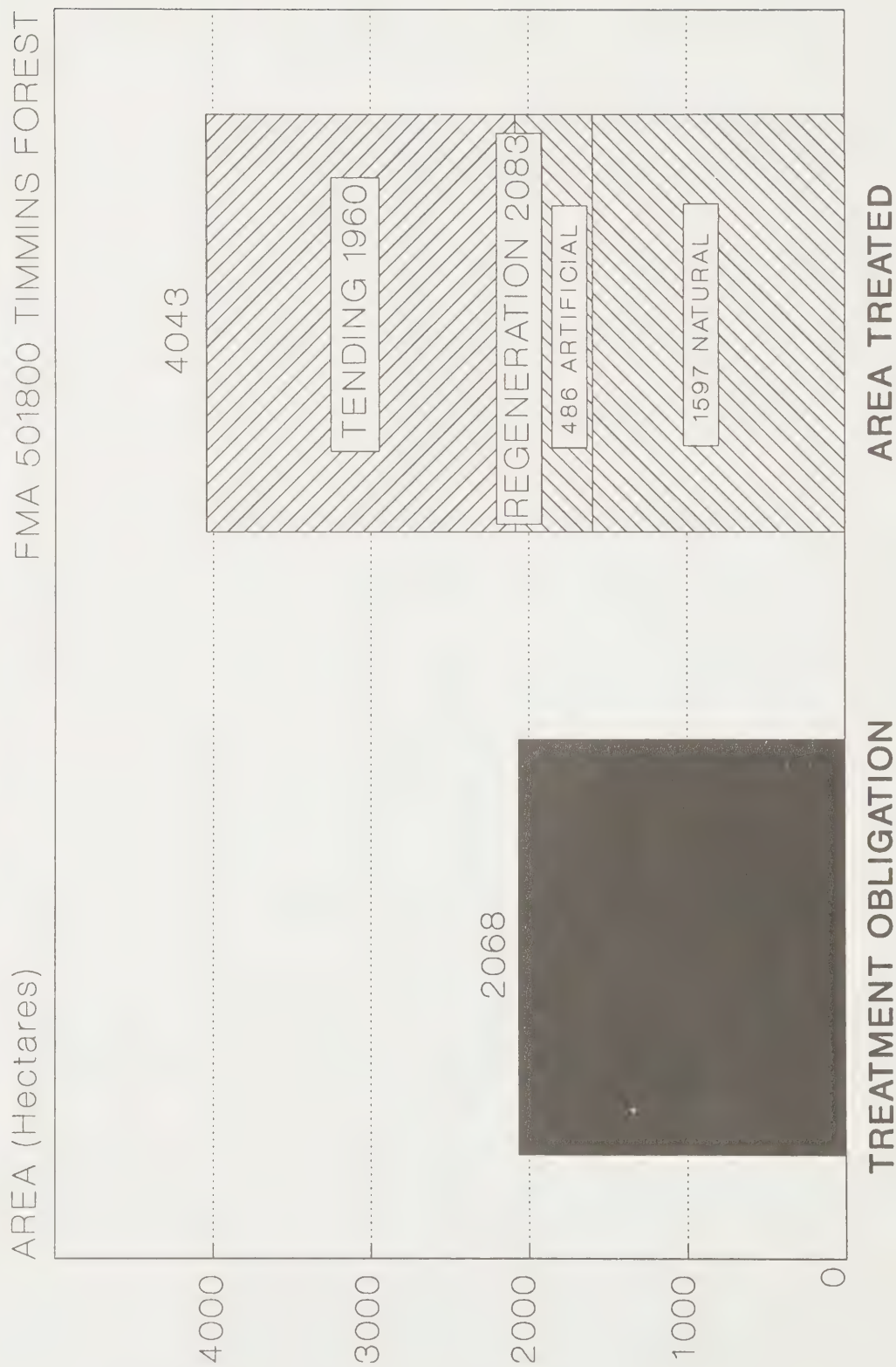
Primary road construction was increased at the expense of secondary roads mainly because of changes in species utilization (i.e. beginning of poplar sales to the Grant Waferboard Company of Englehart and termination of jack pine use by the Thorold mill) and wood flow direction (i.e. movement of wood to the Ostrum saw and chip mill). Another factor was the introduction of a prime-site harvest and regeneration strategy.

# FIGURE 2: COMPARISON OF ALLOWABLE DEPLETION AND HARVEST





**FIGURE 3: COMPARISON OF NSR TREATMENT OBLIGATION  
AND NSR TREATMENT, 1983-88**



Road maintenance was reduced because fewer roads were built than planned, and because available funds were diverted to building the more expensive primary roads. While road funding by MNR was reduced, the Company continued to maintain roads required for harvesting and deliveries to an acceptable standard at their own expense.

In this FMA, roads are constructed by Company contractors under Company supervision and inspected jointly by a Company representative and an MNR field technician for FMA invoices. The Company builds roads to a standard that is generally higher than those required by the agreement. No roads were found to be substandard for the period.

Three sections of road were measured on Company mylar maps, compared to invoices and all were found to be accurate.

## **2.6. COMPANY RECORDS**

Silvicultural records are maintained on mylar maps with details concerning the area and its treatment (including aerial photographs, soil type, topography, disturbance, site preparation, planting stock, planting and stock handling, seeding, competition, previous treatment and post treatment) contained in associated binders. Information about any treatment area is identified by a six digit project number (assigned at first Company activity on the area) that accommodates subdivision of areas and indicates treatments. Areas of one tending invoice and one site preparation invoice were reconciled successfully with mylar maps by using an electronic graphics calculator. The silvicultural records were carefully maintained and shown to be accurate. Depletion records were also shown to be carefully maintained and accurate.

It was noted that the Company has pursued, on their own initiative, a number of record keeping and information gathering developments. In particular, the company is initiating the use of colour infrared and colour aerial photography in their regeneration assessment program. In addition, the Company has developed a computer program for monitoring on-going planting projects on a daily basis. This system allows company managers to pinpoint and quickly correct problems with planting quality. The Company is commended for these and other initiatives.

## **2.7. ANNUAL REPORTS**

Paragraph 38 of the agreement requires that the agreement holder prepare an annual report in accordance with the Forest Management Manual and submit them to the Ministry by appropriate dates in respect of the operations conducted on the agreement area in the year preceded.

These reports were submitted but no documentation was available for the first three years in either Company or Ministry records to substantiate submission dates. Company employees and the DCR agree that they cannot recall these reports being late. Reports for 1986 and 1987 were submitted on time. Company personnel reconciled maps and tables with MNR records before reports were written.

The accuracy of the annual reports was checked by comparing primary and secondary road length totals from invoices for 1983-1984 and 1987-1988 with those reported on the annual reports. Invoices and annual report road lengths were found to be identical.

Apart from the recording of submission dates, a commendably good job of annual reporting has been maintained.

**RECOMMENDATION:** That both the Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be evaluated.

## **2.8. INTEGRATION WITH OTHER FOREST USERS**

Section 9 of the ground rules, entitled Modified Management Areas<sup>2</sup>, details how areas which are to be managed to meet objectives other than or in addition to wood fibre production were identified during the preparation of the five year operating plan for the period. It was the responsibility of the Ministry to identify these areas and develop prescriptions. The Company was to implement the Ministry's prescriptions.

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<sup>2</sup> Modified Management Areas (MMAs) have since been replaced by the "Area of Concern" planning process.

The **TIMMINS FOREST** is used by many people besides the FMA agreement holder. Private cottages are widespread with major developments at Scott Lake and Marceau Lake. In one cottage area examined during the field trip, an MMA larger than required was left around the cottages and the cut pattern was designed with a saw tooth edge leaving a much more attractive forest scene than would have resulted from straight boundaries. This cut design constituted an exemplary case of multiple resource use for which the Company is commended. In spite of Company efforts though, an area of conflict remains to be resolved at Marceau Lake where cottage owners are objecting to proposed cuts and road locations.

Mining is another major use of the area. The Company has been careful to avoid damage to claim posts and similar requirements of mining activity. However, the Company has not always been treated with equal respect. They are not informed ahead of time about staking in new areas; therefore, they have constant concern about people being in the area during such silvicultural activities as aerial spraying and prescribed burning. On one occasion, a road was bulldozed through an area that had been prepared, planted and tended, destroying a considerable amount of Company and Ministry investment.

**RECOMMENDATION:** That the Ministry of Natural Resources review existing policies and procedures dealing with Mining-Timber conflicts in light of the concerns raised by this forest products company and initiate meetings with involved parties to define and resolve identified problems.

Many hunters and fishermen use the area, so protection of wildlife and fisheries values is important. Inspection of cutovers showed the FMA areas to be generally acceptable in size for providing good moose habitat and also, in many cases, suitable in shape. A few moose corridors helped break up larger clear cuts.

No-cut or deferred cut timber reserves have been established to protect the valuable water resources, including some cold water lakes and streams. Blowdown of trees remaining in these areas has been a concern in some instances.

Water crossings were well handled with culverts well placed and river banks stabilized. The Company's attitude and actions toward other users have been effective and are to be commended.

### 3. MAINTENANCE OF PRODUCTIVITY

Table 2 shows the maximum allowable depletion which was calculated for the **TIMMINS FOREST** at the beginning of the five year term under review. Harvesting and other forest depletions were well within the obligations of the agreement for all working groups.

The regenerated area (5,721 ha) very nearly equalled that harvested (5,764 ha). Sixty-Five percent (3,734 ha) received a regeneration treatment while the remaining 35% (1,987 ha) regenerated naturally. Regeneration on old cutover NSR land equalled 2083 ha. Regeneration on recent cutover was 3638 ha (63%). The percentage of recent cutover regeneration is expected to increase in future years, as during this period the Company made an effort to concentrate on prime-site NSR lands.

A total of only 131 ha of NSR land was declared free-to-grow but many Company and Ministry treated areas will become eligible in the next five year term.

To further address long-term productivity, the Company has entered into a number of cooperative tree improvement projects with the Ministry of Natural Resources and other companies in the area. Seed orchards, designed to produce superior tree seed for future planting stock linked to a prime-site regeneration strategy, have been established.

The review committee was impressed with the organization and silvicultural practices of the Company and commend the Company for the prompt action taken in regenerating the harvested area.



**Table 2****TIMMINS FOREST FMA 501800**

Comparison of the 1983-1988 Maximum Allowable Depletion, Total Depletion, Harvest and Regeneration Activities and the 1988-1993 Maximum Allowable Depletion. (Ministry Phase-out Operation Included in Regeneration Total)

Working Group/or Forest Unit	1983-88 Maximum Allowable Depletion	Total Depletion	Harvest Cut	Regeneration Total	1988-93 Maximum Allowable Depletion
Spruce X,1,2 (1)	3,633	2,122	1,919		3,391
Spruce 3	304	43	43		296
Balsam Fir	4,968	2,510	1,744		4,885
Jack Pine	1,845	968	907	N/A	1,429
Poplar X,1,2	2,682	912	836		1,723
Poplar 3	892	86	83		399
White Birch 3	1,754	232	232		1,187
<b>Total</b>	<b>16,078</b>	<b>6,873</b>	<b>5,764</b>	<b>5,721(2)</b>	<b>13,310</b>

(1) X, 1, 2, 3 refers to site class - a measure of site productivity with X being the most productive and 3 the least.

(2) Ministry phase-out operation included in regeneration total.

#### 4. COMPANY CONCERNS

The Company was provided an opportunity to express any concerns that it might have with regard to FMA 501800 or with regard to the Ministry's administration of the agreement. Senior management of the Quebec and Ontario Paper Company though generally satisfied with the workings of the FMA, expressed concerns with:

- the continuing reduction of the level of FMA funding for roads and the late notification of approval.
- the constraint of the silvicultural programs on Crown Management Units (CMU) and the resulting future pressure expected on FMA's as the CMU wood fibre base diminishes.
- the minimum standard of black spruce container stock. The minimum standard should be increased. This may result in the elimination of the small diameter 408 paper pot as the present standard is unacceptable.
- the cap on nursery stock production. It is considered to be preventing competition and entry of new good quality growers.
- the continuing high percentage of reserves in Modified Management Areas without a good forest management reason for their existence, especially in remote areas. Public input, while necessary for good multiple use planning, often takes precedence over correct forest management.
- the frequent changing of Designated Crown Representatives which causes many unnecessary problems.
- the possible allocation of perceived surplus timber for 20 years by MNR to other companies.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

The review committee was satisfied that the obligations of the Company under the agreement have been satisfactorily performed by the Company during the five year term under review, but notes that the Company and the Ministry have not agreed to new ground rules<sup>3</sup> for the second five year term, the area of the hand scalping project and hand seeding rates. The committee was impressed with the organization and intensity of silvicultural effort by the Company and the commitment to the success of regenerating the **TIMMINS FOREST**.

**RECOMMENDATION NO. 1:** That the Minister extend the remaining period of FMA 501800 by a further term of five consecutive years to March 31st, 2008, pending agreement of new ground rules by the Company and the Ministry.

**RECOMMENDATION NO. 2:** That the Company and the Ministry jointly review the treatable status of lands cut over during this five year term for which Table 1 of the ground rules specifies treatment but which have received no treatment, and that the Company report any areas mutually agreed to be non-treatable in the 1989-1990 annual report

**RECOMMENDATION NO. 3:** That Company and Ministry officials take immediate action to resolve differences in the negotiations for new ground rules<sup>4</sup>.

**RECOMMENDATION NO. 4:** That the Company improve its harvest predictions to ensure compliance with FMA minimum-maximum harvest requirements.

**RECOMMENDATION NO. 5:** That the Minister recognize the naturally regenerated 1,597 hectares as part of the Company's NSR obligation and the Company be credited with 4,043 ha. of NSR lands treated.

**RECOMMENDATION NO. 6:** That both Company and the Ministry take steps to ensure documentation of submission dates for annual reports so that performance of the agreement holder can be better evaluated.

**RECOMMENDATION NO. 7:** That the Ministry of Natural Resources review existing policies and procedures dealing with Mining-Timber conflicts in light of concerns raised by the Forest Products Company and initiate meetings with involved parties to define and resolve identified problems.

<sup>3</sup> Ground rules have subsequently been agreed to.

<sup>4</sup> Ground rules have subsequently been agreed to.



























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